SERVICE MANUAL

FISHER

STEREO DOUBLE CASSETTE DECK WITH RCR-WZ1 WIRELESS REMOTE CONTROL

CR-WZ1

(EUROPE)

142 512 01 (EUROPE)
142 512 02 (SWISS)

SPECIFICATIONS

Remote Control (RCR-WZ1)	39-function Wireless Remote Control
Track System	4-track, 2-channel
Recording System	High Bias (210 kHz) Dolby* HX PRO
Noise Reduction	Dolby* B NR, Dolby* C NR, dbx**
Mechanism	Full Logic Auto Reverse x 2
Heads	
Rec/Play (DECK 1)	OFC Amorphous Head x 1
Erase (DECK 1)	Ferrite Head x 1
Play (DECK 2)	OFC Amorphous Head x 1
Motors	DC Governor Motor x 2 DC Motor x 2
Tape Selector Switch	Automatic (Normal, CrO_2, Metal)
Level Indicator	FL Meter (12 x 2)
Wow and Flutter	0.045 % WRMS
Fast-Forward/Rewind Time (C-60 Tape)	Aprrox. 100 sec.
Frequency Response (MPX Filter OFF)	
Normal Tape	20 Hz ~ 17 kHz [30 Hz ~ 16 kHz, ±3 dB]
CrO_2 Tape	20 Hz ~ 18 kHz [30 Hz ~ 17 kHz, ±3 dB]
Metal Tape	20 Hz ~ 20 kHz [30 Hz ~ 19 kHz, ±3 dB] (Direct Rec) 12 Hz ~ 21 kHz

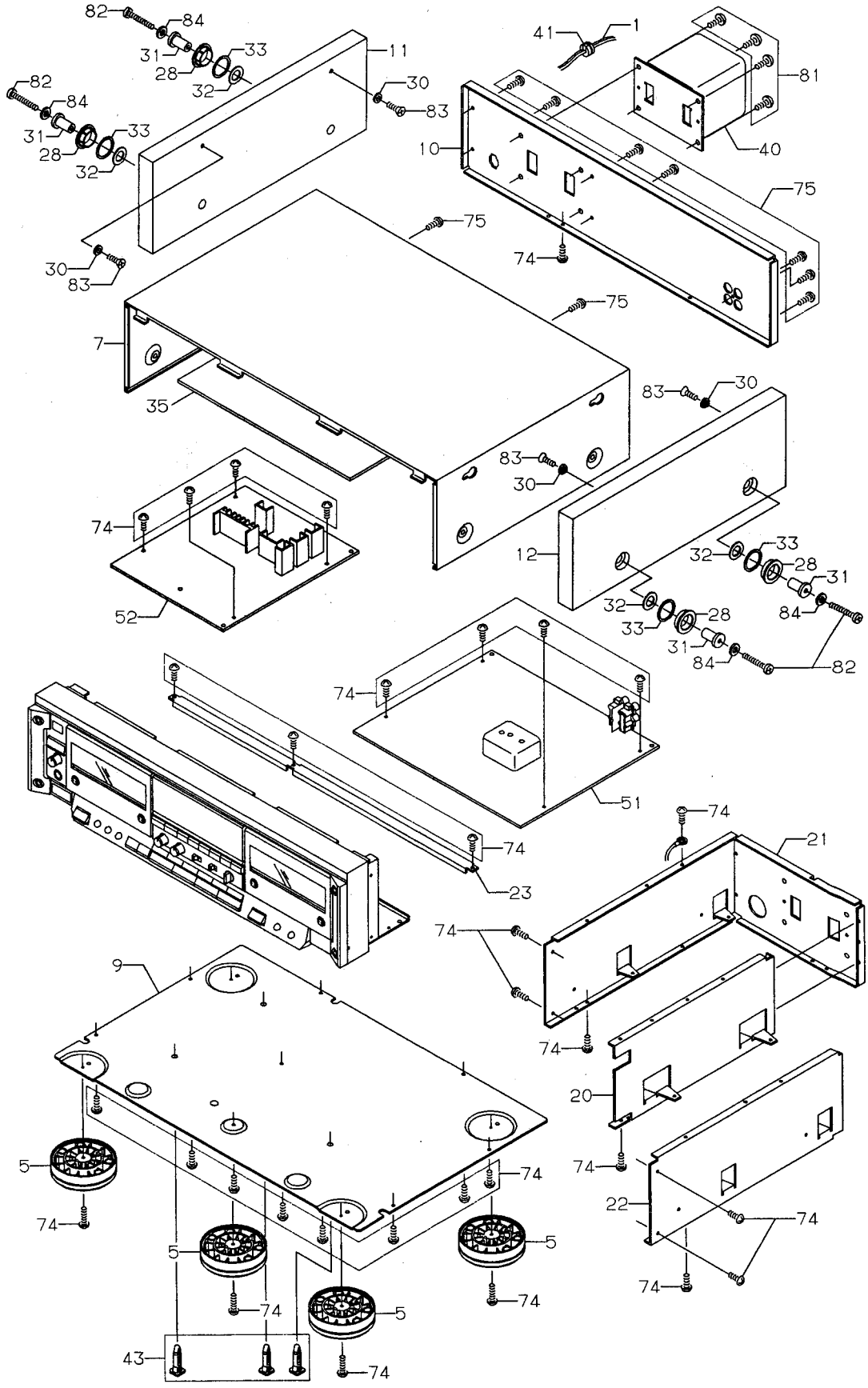
Signal-to-Noise Ratio (CCIR Weighted)	
Noise Reduction OFF/DIRECT	52 dB
Dolby* B NR	62 dB
Dolby* C NR	72 dB
dbx** NR	92 dB
Harmonic Distortion (at 1 kHz, 3rd H.D., Normal Tape)	0.6%
Channel Separation	40 dB
Signal Crosstalk	60 dB
Inputs (Sensitivity/Impedance)	
Line x 2	100 mV/50 kΩ
Outputs (Level at 0 VU/Impedance)	
Line x 2	500 mV/2.2 kΩ
Headphones	0 ~ 100 mV/8 Ω
GENERAL	
Power Requirements	AC: 220V
(50/60 Hz)	30 Watts
Dimensions (WxHxD)	480 x 130 x 380mm
Weight (approx.)	8.6 kg

* "Dolby" and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.
** " **dbx** " is a trademark of dbx Incorporated.

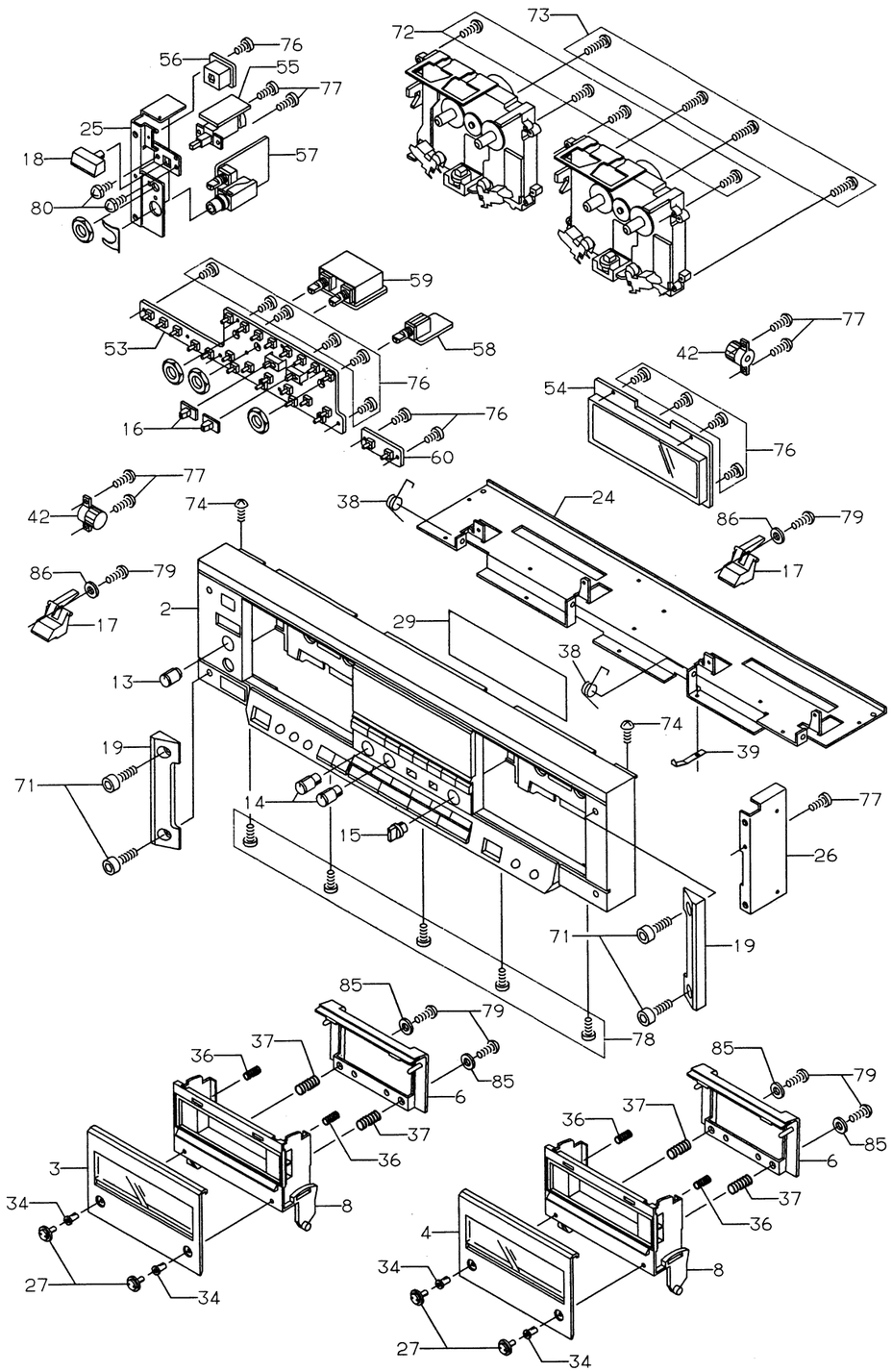
– Specifications and design are subject to change without notice. –

REFERENCE No. WM-570362

CABINET EXPLODED VIEW (1)



CABINET EXPLODED VIEW (2)



CABINET PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	620 000 0024	Bag Polyethylene	1
	620 201 7778	Outer Carton	1
	620 203 6236	Outer Carton,EXP	1
	620 196 4844	Sheet,Poly	1
	620 195 3787	Pad,Bottom	1
	620 195 3794	Pad,Top	1
	620 062 2127	Rubber Band	1
ACCESSORIES			
	620 202 7968	Assy,Poly Cover	1
	620 202 7975	Instruction Manual	1
	620 196 9757	Cord	2
	620 152 2624	Certificate Card	1
	620 152 7452	Serial No. Sheet	1
	620 057 8783	Bag Fan	1
	620 203 6144	Remocon,RCR-WZ1	1
CABINET			
	620 197 3877	Assy,Connector-S,7P	1
	620 197 3884	Assy,Connector-S,2P	1
	620 197 3891	Assy,Connector-S,4P	1
	620 197 4003	Assy,Connector-S,2P	1
	620 197 4034	Assy,Connector-S,6P	1
	620 197 4041	Assy,Connector-S,3P	1
	620 197 4065	Assy,Connector-S,7P	1
	620 197 4072	Assy,Connector-S,2P	1
	620 197 4089	Assy,Connector-S,3P	1
	620 197 4096	Assy,Connector-S,3P	1
	620 199 7668	Cushion,Button	1
	620 196 8842	Felt,Cushion	10
	620 125 8424	Wire Band	16
	620 152 7452	Serial No. Sheet	2
W30	620 024 3261	Wire 3Parallel Assy	1
W46	620 017 6392	Connector 1P Assy	1
W47	620 017 6392	Connector 1P Assy	1
1	⚠ 620 023 7550	Power Cord	1
2	620 195 4142	Assy,Cabinet,Front	1
3	620 201 7747	Assy,Panel,Lid,Left	1
4	620 195 4173	Assy,Panel,Lid,Right	1
5	620 201 8508	Assy,Foot (EUROPE)	4
5	620 195 9413	Assy,Foot (SWISS)	4
6	620 195 9154	Assy,Holder,Cassette	2
7	620 195 3886	Cover,Top	1
8	620 195 3947	Lid,Cassette	2
9	620 195 3909	Plate,Bottom	1
10	620 201 7723	Panel,Rear	1
11	620 201 7754	Panel,Side,Wood,Left (EUROPE)	1
11	620 195 3732	Panel,Side,Wood,Left (SWISS)	1
12	620 201 7761	Panel,Side,Wood,Right (EUROPE)	1
12	620 195 3749	Panel,Side,Wood,Right (SWISS)	1
13	620 195 4227	Knob,Rotary,Phone	1
14	620 195 4234	Knob,Rotary,Volume	2
15	620 195 4258	Knob,Rotary,NR	1
16	620 195 4265	Knob,Slide	2
17	620 195 4074	Button,Eject	2
18	620 195 4098	Button,Power	1
19	620 195 1943	Handle	2
20	620 195 3817	Chassis,Center	1
21	620 195 3831	Chassis,Left	1
22	620 195 3848	Chassis,Right	1
23	620 195 3855	Chassis,Beam	1
24	620 195 3879	Chassis,Front	1
25	620 195 3916	Bracket-M,Left	1
26	620 195 3923	Bracket-M,Right	1
27	620 195 3756	Cap,Lid	4
28	620 201 7099	Cap,Wood	4
29	620 195 4036	Filter,Front	1
30	620 195 3800	Spacer	4
31	620 201 7105	Spacer,Wood	4
32	620 201 9949	Spacer	4
33	620 203 7073	Cushion	4
34	620 198 0400	Bush,Rivet	4
35	620 197 5192	Pad,Damper	1
36	620 195 4326	Spring,Comp,Cassette 1	4
37	620 195 6757	Spring,Comp,Cassette 2	4
38	620 195 4296	Spring,Tors,Lid	2
39	620 195 4043	Spring,Plate,Earth	1
40	⚠ 620 201 8546	Power Trans,SEV,25VA	1

Ref. No.	Part No.	Description	Q'ty
41	620 053 2136	Bushing (MP4N-4)	1
42	620 083 1765	Gear Eject Assy	2
43	620 191 7994	Post Support P.C.B.	3
51	620 196 5599	Assy,PCB,Audio	1
52	620 202 0778	Assy,PCB,Control	1
53	620 196 5629	Assy,PCB,Switch	1
54	620 196 5636	Assy,PCB,FL	1
55	620 202 0785	Assy,PCB,Power	1
56	620 196 5650	Assy,PCB,Remocon	1
57	620 196 5667	Assy,PCB,Headphone	1
58	620 196 5674	Assy,PCB,Rotary	1
59	620 196 5681	Assy,PCB,Volume	1
60	620 196 5698	Assy,PCB,SUB Switch	1
71	412 033 7503	SPECIAL SCREW	4
72	411 020 5904	SCR S-TPG BRZ 3X10	4
73	411 020 6208	SCR S-TPG BRZ 3X12	4
74	411 020 8004	SCR S-TPG BRZ 3X8	34
75	411 099 9803	SCR S-TPG BRZ 3X8	9
76	411 021 0809	SCR S-TPG BIN 2X6	17
77	411 021 3107	SCR S-TPG BIN 2.6X8	7
78	411 021 6603	SCR S-TPG BIN 3X8	5
79	411 023 3006	SCR S-TPG PAN 2.6X6	6
80	411 003 8908	SCR PAN+SW 3X6	2
81	411 111 3000	SCR TRS 5X8	4
82	412 033 7602	SPECIAL SCREW	4
83	411 082 9605	SCR WOOD FLT 3.1X16	4
84	412 033 7909	SPECIAL WASHER	4
85	412 034 0602	SPECIAL WASHER	4
86	411 126 4405	WASHER Z 2.6X10X0.5	2

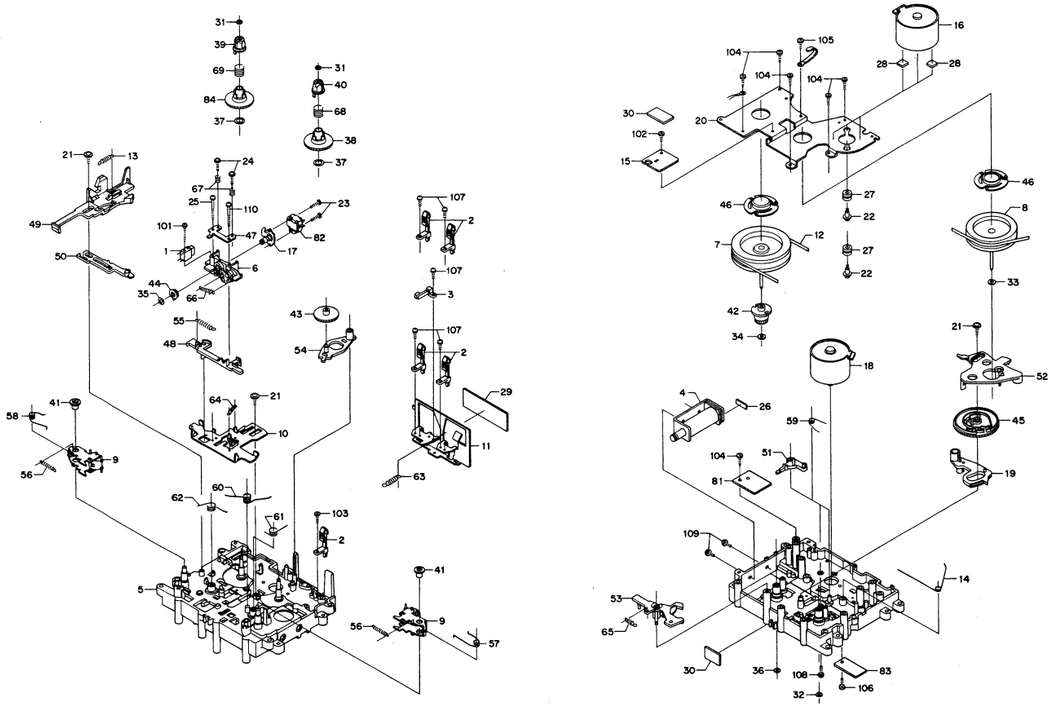
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

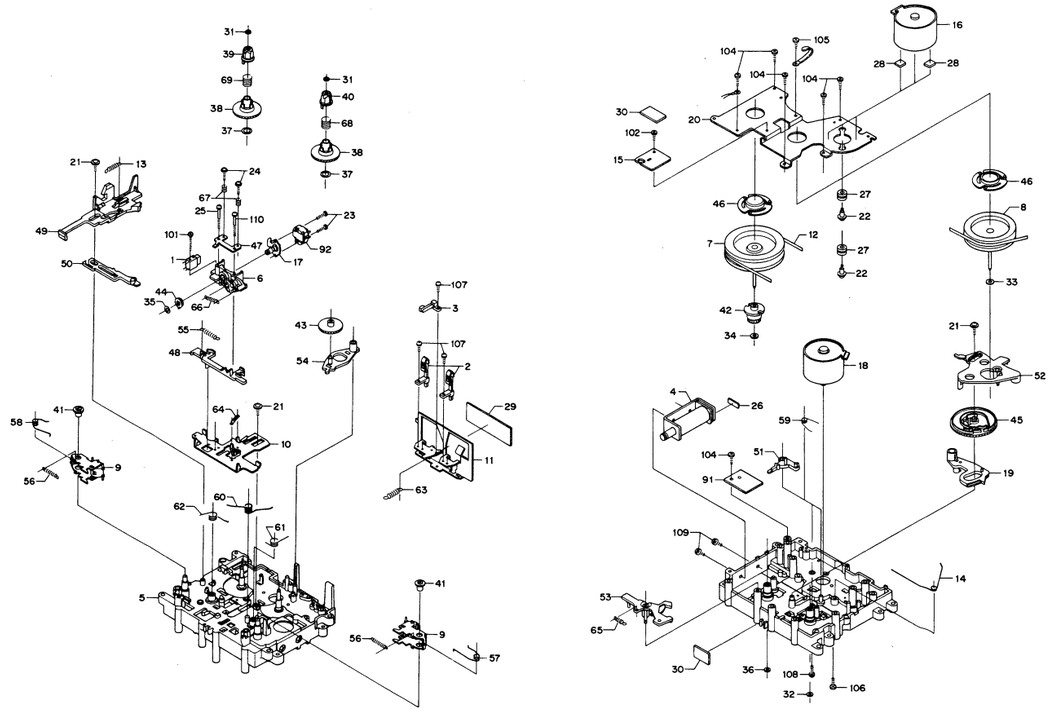
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

MECHANISM EXPLODED VIEW



MECHANISM EXPLODED VIEW (Continued)



Ref. No.	Part No.	Description	Q'ty
MECHANISM			
	620 125 8110	Lug	2
1	620 004 2505	Photo R.	2
2	620 016 9332	Leaf Switch [SW701 ~ SW707]	7
3	620 016 9349	Leaf Switch [SW708, SW709]	2
4	620 029 3624	Plunger [PL1, PL2]	2
5	620 195 6511	Assy,Chassis	2
6	620 196 2772	Assy,Base,Head	2
7	620 195 6481	Assy,Flywheel,FWD	2
8	620 195 6504	Assy,Flywheel,REV	2
9	620 196 2789	Assy,Pinchroller	4
10	620 196 2796	Assy,Base,Slide	2
11	620 196 2703	BRACKET-E,Switch	2
12	620 195 6436	Belt,Flat,Drive	2
13	620 196 2994	Spring,Tension	2
14	620 197 8223	Spring,Tors,Earth	2
15	620 196 5803	PCB,Head Z1	2
16	620 195 7648	Motor [M1, M3]	2
17	620 082 2787	Plate Head Assy	2
18	620 191 0483	Gear Motor Assy [M2, M4]	2
19	620 085 0902	Lever Assist B Assy	2
20	620 119 1547	Support Flywheel	2
21	620 122 7277	Screw W/Washer +M2.0X6.0	6
22	620 122 9356	Screw Washer +M2.6X1.5	4
23	620 123 0550	Screw +PMS M1.6X6.0	4
24	620 123 0901	Screw Azimuth	4
25	620 123 1038	Screw C Switch M2X20	2
26	620 123 5920	Sheet	2
27	620 123 9942	Cushion Motor	4
28	620 124 5530	Cushion	4
29	620 124 5950	Cushion	2
30	620 124 7350	Cushion	4
31	620 125 1630	Washer M1.5X3.5X0.4	4
32	620 125 1982	Washer	2
33	620 125 3450	Washer	2
34	620 125 3870	Washer	2
35	620 125 4280	Washer CUT	2
36	620 125 4761	Washer	2
37	620 125 4846	Washer	4
38	620 126 6252	Reel Plate	3
39	620 126 6269	Fin Reel Supply	2
40	620 126 6276	Fin Reel Take UP	2
41	620 126 8492	Bush	4
42	620 127 8118	Gear Flywheel	2
43	620 127 8132	Gear Idler	2
44	620 127 8156	Gear Head	2
45	620 127 8163	Gear Actuate	2
46	620 129 1230	Thrust Flywheel	4
47	620 130 6019	Plate-Azimuth	2
48	620 130 6026	Plate Reverse	2
49	620 130 6033	Rod Eject	2
50	620 130 6040	Rod Eject Base	2
51	620 131 8982	Lever Lock Base	2
52	620 131 9002	Lever REV Select	2
53	620 131 9019	Lever Play Start	2
54	620 132 4914	Arm Idler	2
55	620 136 9922	Spring Slide Base	2
56	620 137 4346	Spring Base Head	4
57	620 137 9051	Spring Arm Pinch R	2
58	620 137 9068	Spring Arm Pinch Left	2
59	620 137 9082	Spring Lever REV SEL	2
60	620 137 9099	Spring Lever Base	2
61	620 137 9358	Spring Earth FWD	2
62	620 137 9365	Spring Earth Revs	2
63	620 138 9616	Spring Base	2
64	620 139 1077	Spring Lever Base	2
65	620 139 1121	Spring Lever Start	2
66	620 139 1220	Spring Gear Reverse	2
67	620 139 4139	Spring Azimuth	4
68	620 139 4207	Spring Reel FWD	2
69	620 139 4214	Spring Reel Revs	2
81	620 197 3419	Assy,PCB,Adjust,D.1	1
82	620 197 2887	Head,R/P,2 [HD1]	1
83	620 080 2871	Photo.DET.Assy	1
84	620 082 8819	Reel Plate Assy	1
91	620 197 3433	Assy,PCB,Adjust,D.2	1
92	620 197 2894	Head,Play,2 [HD2]	1
101	411 108 9305	SCR S-TPG BIN 2X12	2
102	411 021 0809	SCR S-TPG BIN 2X6	2
103	411 021 1202	SCR S-TPG BIN 2X8	1
104	411 021 1806	SCR S-TPG BIN 2.6X10	12
105	411 021 2704	SCR S-TPG BIN 2.6X6	2
106	411 031 1605	SCR BIN 2.6X6	2
107	411 044 7205	SCR PAN+SW 2X4	8
108	411 003 8809	SCR PAN+SW 2.6X6	2
109	411 045 5408	SCR PAN+SW 3X5	4
110	411 106 5606	SCR PAN+SW+W 2X20	2

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

CASSETTE DECK ADJUSTMENT

BEFORE ADJUSTMENT

If the tape surface which contacts the head, the capstan, and the pinch roller, etc., is stained, it will cause unstable running of the tape, wow and flutter, imperfect recording and erasing, deterioration of tonal quality, and even tape jam around the capstan, etc. Occasionally clean each part as follows;

1. Cut off power.
2. Open the cassette lid.
3. Wipe the head, the capstan, and the pinch roller with a cotton swab. If they are excessively stained, clean them with a swab soaked in absolute alcohol or cleaning liquid available on the market.

MEASURING INSTRUMENTS REQUIRED

- Dualtrace Oscilloscope
- AC VTVM (AC voltmeter with high impedance)
- Dummy Load (47kΩ)
- Frequency Counter
- Signal Oscillator
- Test Tapes
  - ‡ 12.5kHz Test Tape (Example: A.BEX TCC-154) for Azimuth Adjustment
  - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - ‡ 1.5kHz Test Tape (Example: A.BEX TCW-211) for Tape Speed Adjustment
  - ‡ 400Hz Test Tape (Example: TEAC MTT-150) for Playback sensitivity Adjustment
- Test Tape for Recording and Playback Operations
  - ‡ Metal Tape (Example: TDK AC 712)
  - ‡ CrO_2 Tape (Example: TDK AC 512)
  - ‡ Normal Tape (Example: TDK AC 223)

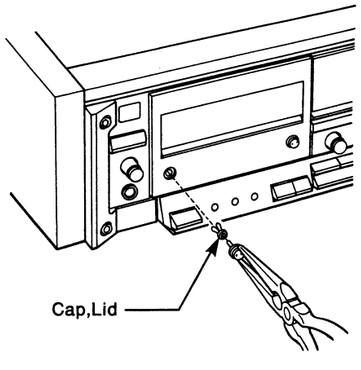
SWITCH POSITIONS

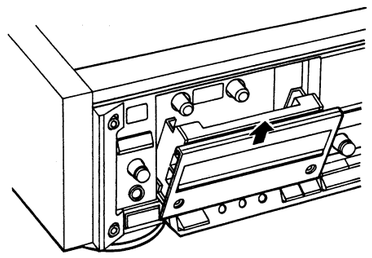
Unless especially indicated, set each switch as follows;

BALANCE	CENTER
INPUT LEVEL	MAX
MPX FILTER Switch	OFF
NOISE REDUCTION Switch	OFF
TIMER STANDBY	OFF

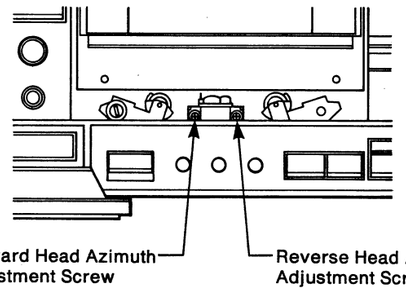
HEAD AZIMUTH ADJUSTMENT

1. Pull out the Cap,Lid carefully by pliers and remove the Lid.





2. Connect the dummy load (47kΩ) and the dualtrace oscilloscope to the LINE OUT terminals L and R.
3. Load Deck 1 with a test tape (Example: A.BEX TCC-154) and set it in the forward playback mode.
4. Adjust the forward head azimuth adjustment screw, so that the waveforms become maximum on the oscilloscope and the right wave form overlaps with the left one.
5. Set to the reverse playback mode.
6. Adjust the reverse head azimuth adjustment screw in the same way as for the forward side.
7. Repeat the above several times.
8. Adjust Deck 2 in the same way as for Deck 1.



NORMAL TAPE SPEED ADJUSTMENT

1. Connect the dummy load (47kΩ) and the frequency counter to the LINE OUT terminal L.
2. Load Deck 1 with a test tape (Example: TEAC MTT-111) and set it in the forward playback mode.
3. Adjust P403 in the control P.C.B., so that the output becomes 3000Hz±5Hz.
4. Perform the same adjustment for Deck 2 (P404).

HIGH SPEED TAPE SPEED ADJUSTMENT

1. Connect the dummy load (47kΩ) and the frequency counter to the LINE OUT terminal L.
2. Load Deck 1 with a test tape (Example: A.BEX MTT-111) and set it in the forward playback mode.
3. Short circuit TP1 to TP2.
4. Then adjust P405, so that the output becomes 6000Hz±10Hz.
5. Perform the same adjustment for Deck 2 (P406).
6. Open circuit TP1 to TP2.

CASSETTE DECK ADJUSTMENT (Continued)

PLAYBACK & METER SENSITIVITY ADJUSTMENT

1. Connect the AC VTVM to the Test Pin TP3 to GND and TP4 to GND.
2. Load Deck 1 with a test tape (Example: TEAC MTT-150) and set it in the playback mode.
3. Adjust P103, so that the output of LINE OUT (L) becomes 600mV.
4. Adjust P104, so that the output of LINE ONT (R) becomes 600mV.
5. Load Deck 2 with a test tape (Example: TEAC MTT-150) and set it in the playback mode.
6. Adjust P101, so that the output of LINE OUT (L) becomes 600mV.
7. Adjust P102, so that the output of LINE OUT (R) becomes 600mV.
8. Adjust P401, so that left meter 0dB point just lights up.
9. Adjust P402, so that Right meter 0dB point just lights up.

dbx TIMING ADJUSTMENT

1. Connect the signal oscillator to the LINE IN terminal L and feed the signal 1kHz at 35mV (−29dBs).
2. Load Deck 1 with a normal tape and set in the Rec. mode.
3. Connect AC VTVM to the test pin TP5 to TP6.
4. Adjust P301, so that the output becomes 15 mV±0.1mV.

BIAS ERASE CURRENT OSC ADJUSTMENT

1. ERASE CURRENT ADJUSTMENT
   a. Load Deck 1 with a METAL tape (Example: TDK AC 712) and set in the Rec. mode.
   b. Connect AC VTVM and Frequency Counter to the test pin TP7 to GND.
   c. Adjust L301, so that the output frequency is 105kHz±1kHz.
   d. Adjust L302, so that the output voltage reaches maximum level. Then if the voltage is over 200mV, cut the staple J34 and if the voltage is lower −165mV, short test terminal TP8 to TP9.
2. HX PRO CIRCUIT ADJUSTMENT
   a. Load Deck 1 with METAL tape (Example: TDK AC 712) and set in the Rec. mode.
   b. Connect AC VTVM to the test pin TP10 to GND.
   c. Adjust L303, so that the output voltage reaches maximum level.

HX PRO CIRCUIT DRIVE TRANS ADJUSTMENT

1. Load Deck 1 with a METAL tape (Example: TDK AC 712) and set in the Rec. mode.
2. Short test terminal TP11 to TP12 and TP15 to TP 16.
3. Connect AC VTVM to the test terminal TP13 to GND.
4. Adjust L305, so that the output voltage reaches maximum level.
5. Connect AC VTVM to the test terminal TP14 to GND. and adjust L306, so that the output voltage reaches maximum level.
6. Open circuit TP11 to TP12 and TP15 to TP16.

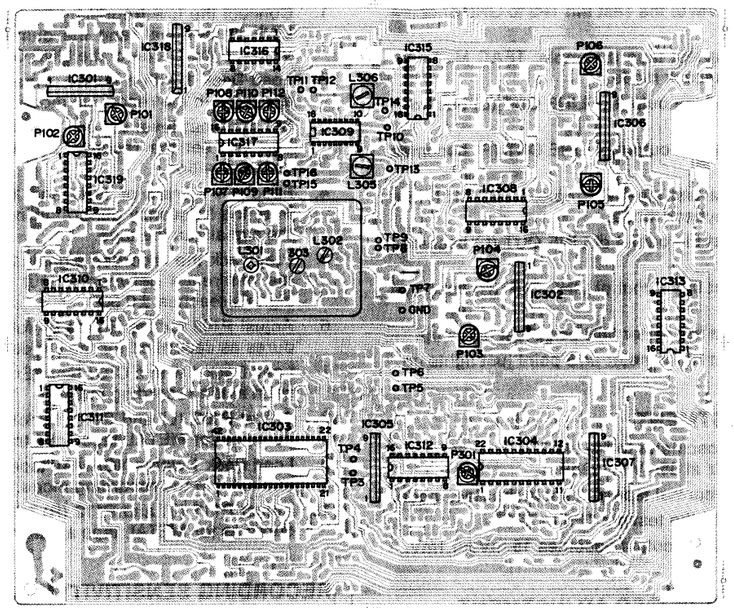
RECORD BIAS ADJUSTMENT

1. Connect the low frequency oscillator to the L side of the LINE IN terminal, and the dummy load (47kΩ) and AC VTVM to the L side of the LINE OUT terminal.
2. Load Deck 1 with a METAL tape (Example: TDK AC 712) and set it in the recording mode.
3. Set the input level volume control to the maximum position and set the record balance volume control to the center position.
4. Feed the signals of 1kHz and 14kHz at 7mV (−43dBs) from the frequency generator into the unit. Then, record the signals on the tape.
5. Play back the recorded signals and adjust P107, so that the difference between output of the 1kHz and 14kHz signals reaches ±0.5dB.
6. Adjust P108 for the R side by following the same procedures as described for the L side.
7. Load Deck 1 with a CrO_2 tape (Example: TDK AC 512) and set it in the recording mode.
8. Adjust P109 (L) and P110 (R) following the same procedures as for METAL tape adjustment.
9. Load Deck 1 with a NORMAL tape (Example: TDK AC 223) and set it in the recording mode.
10. Adjust P111 (L) and P112 (R) following the same procedures as for METAL tape adjustment.

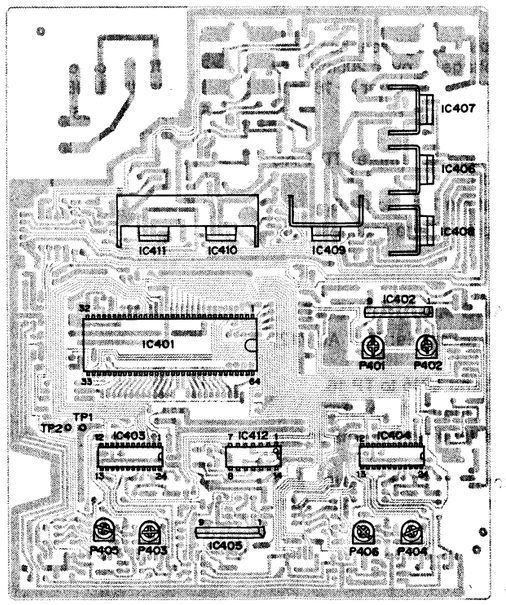
RECORDING SENSITIVITY ADJUSTMENT

1. Connect the low frequency oscillator to the L side of the LINE IN terminal, and the dummy load (47kΩ) and AC VTVM to the L side of the LINE OUT terminal.
2. Load Deck 1 with a METAL tape (Example: TDK AC 712) and set it in the record pause mode.
3. Feed a signal of 1kHz at 100mV (−20dBs) from the frequency generator into the unit. Then, adjust INPUT LEVEL volume so that LINE OUT voltage becomes 340mV and record the signals on the tape.
4. After recording, play back the tape and adjust P105 so that the LINE OUT voltage becomes 340mV±20mV.
5. Adjust P106 for the R side by following the same procedures as described for the L side.

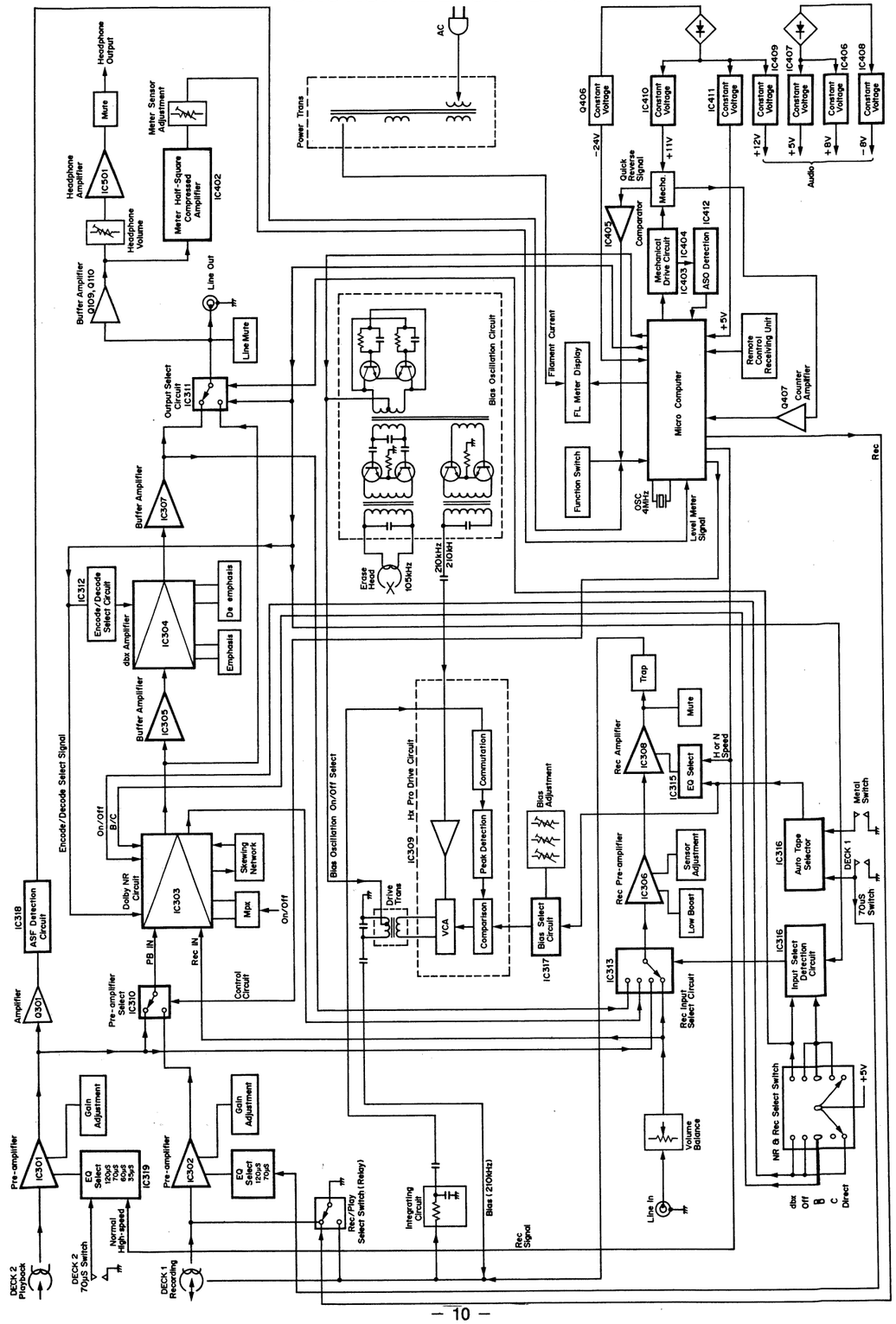
AUDIO P.C.BOARD ALIGNMENT POINTS



CONTROL P.C.BOARD ALIGNMENT POINTS



FUNCTIONAL BLOCK DIAGRAM



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
ASSY,PCB,AUDIO			
51	620 196 5599	Assy,PCB,Audio	1
	620 021 6838	RT Pin 0.8 X7L	17
	620 196 3953	Jack,RCA,4P,Gold	1
	620 195 3770	Shield,Cover	1
CN2	620 021 8610	Plug 6P	1
CN3	620 021 5923	Plug 3P	1
CN4	620 021 8320	Plug 5P	1
CN8	620 021 2106	Plug 8P	1
CN9	620 021 8405	Plug 8P	1
CN20	620 021 5923	Plug 3P	1
CN21	620 021 1970	Plug 2P	1
CN22	620 021 8306	Plug 2P	1
CN23	620 021 1970	Plug 2P	1
CN24	620 021 7811	Plug 3P	1
CN25	620 021 5954	Plug 6P	1
L103	620 197 3013	Filter,LC,Trap,210K,Bias	1
L104	620 197 3013	Filter,LC,Trap,210K,Bias	1
L105	620 197 3037	Filter,LC,MPX,210kHz	1
L106	620 197 3037	Filter,LC,MPX,210kHz	1
L107	620 029 5673	Filter Skew	1
L108	620 029 5673	Filter Skew	1
L301	620 197 2931	Trans,OSC,Master	1
L302	620 197 2955	Trans,OSC,Erase Head	1
L303	620 197 2962	Trans,OSC,HX,PRO	1
L304	620 197 3006	Trans,OSC,Bias	1
L305	620 197 3006	Trans,OSC,Bias	1
P101	620 006 1346	Potentiometer 220	1
P102	620 006 1346	Potentiometer 220	1
P103	620 006 1346	Potentiometer 220	1
P104	620 006 1346	Potentiometer 220	1
P105	620 006 1377	Potentiometer 10KB	1
P106	620 006 1377	Potentiometer 10KB	1
P107	620 006 1360	Potentiometer 22KB	1
P108	620 006 1360	Potentiometer 22KB	1
P109	620 006 1360	Potentiometer 22KB	1
P110	620 006 1360	Potentiometer 22KB	1
P111	620 006 1360	Potentiometer 22KB	1
P112	620 006 1360	Potentiometer 22KB	1
P301	620 006 1407	Potentiometer 2.2KB	1
RY301	620 196 6831	Relay,2-2	1
IC301	409 057 4601	IC UPC4570HA	1
IC302	409 057 4601	IC UPC4570HA	1
IC303	409 004 9208	IC CX20187	1
IC304	409 001 1502	IC AN6291	1
IC305	409 057 4601	IC UPC4570HA	1
IC306	409 183 8702	IC UPC4072HA	1
IC307	409 057 4601	IC UPC4570HA	1
IC308	409 146 5403	IC CXA1198AP	1
IC309	409 183 8603	IC UPC1297CA	1
IC310	409 051 2801	IC TC4052BP	1
IC311	409 051 2801	IC TC4052BP	1
IC312	409 051 3006	IC TC4053BP	1
IC313	409 051 2801	IC TC4052BP	1
IC315	409 051 2603	IC TC4051BP	1
IC316	409 050 7807	IC TC4001BP	1
IC317	409 051 2801	IC TC4052BP	1
IC318	409 016 5502	IC LA2000	1
IC319	409 051 2801	IC TC4052BP	1
Q101	405 001 0200	TR RN1202-TPE4	1
Q102	405 001 0200	TR RN1202-TPE4	1
Q103	405 001 0200	TR RN1202-TPE4	1
Q104	405 001 0200	TR RN1202-TPE4	1
Q105	405 019 2906	TR 2SC536-F-SP	1
or	405 019 4009	TR 2SC536-G-SP	1
Q106	405 019 2906	TR 2SC536-F-SP	1
or	405 019 4009	TR 2SC536-G-SP	1
Q107	405 021 0204	TR 2SD1012-F-SPA	1
or	405 021 0600	TR 2SD1012-G-SPA	1
Q108	405 021 0204	TR 2SD1012-F-SPA	1
or	405 021 0600	TR 2SD1012-G-SPA	1
Q109	405 010 9607	TR 2SC1571-F-NP	1
or	405 010 9706	TR 2SC1571-G-NP	1
Q110	405 010 9607	TR 2SC1571-F-NP	1
or	405 010 9706	TR 2SC1571-G-NP	1
Q111	405 079 7101	TR DTC343TS-PT	1
Q112	405 079 7101	TR DTC343TS-PT	1
Q113	405 035 9101	TR BS170-TP	1
Q114	405 035 9101	TR BS170-TP	1

Ref. No.	Part No.	Description	Q'ty
Q115	405 010 9607	TR 2SC1571-F-NP	1
or	405 010 9706	TR 2SC1571-G-NP	1
Q116	405 010 9607	TR 2SC1571-F-NP	1
or	405 010 9706	TR 2SC1571-G-NP	1
Q117	405 035 9101	TR BS170-TP	1
Q118	405 035 9101	TR BS170-TP	1
Q119	405 019 2906	TR 2SC536-F-SP	1
or	405 019 4009	TR 2SC536-G-SP	1
Q120	405 019 2906	TR 2SC536-F-SP	1
or	405 019 4009	TR 2SC536-G-SP	1
Q121	405 019 2906	TR 2SC536-F-SP	1
or	405 019 4009	TR 2SC536-G-SP	1
Q122	405 019 2906	TR 2SC536-F-SP	1
or	405 019 4009	TR 2SC536-G-SP	1
Q123	405 079 7101	TR DTC343TS-PT	1
Q124	405 079 7101	TR DTC343TS-PT	1
Q301	405 019 4009	TR 2SC536-G-SP	1
Q302	405 019 2906	TR 2SC536-F-SP	1
or	405 019 4009	TR 2SC536-G-SP	1
Q303	405 001 0200	TR RN1202-TPE4	1
Q304	405 001 1108	TR RN2202-TPE4	1
Q305	405 001 0200	TR RN1202-TPE4	1
Q306	405 091 7608	TR 2SC2785F	1
Q307	405 091 7608	TR 2SC2785F	1
Q308	405 091 7707	TR 2SD1423Q	1
or	405 091 7806	TR 2SD1423R	1
Q309	405 091 7707	TR 2SD1423Q	1
or	405 091 7806	TR 2SD1423R	1
Q310	405 091 7608	TR 2SC2785F	1
Q311	405 091 7608	TR 2SC2785F	1
Q312	405 001 0200	TR RN1202-TPE4	1
Q313	405 001 0200	TR RN1202-TPE4	1
Q314	405 001 0200	TR RN1202-TPE4	1
Q315	405 001 0200	TR RN1202-TPE4	1
Q316	405 001 1108	TR RN2202-TPE4	1
Q317	405 001 1108	TR RN2202-TPE4	1
Q318	405 019 2906	TR 2SC536-F-SP	1
or	405 019 4009	TR 2SC536-G-SP	1
Q319	405 001 0200	TR RN1202-TPE4	1
D101	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D102	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D301	407 005 8602	DIODE ERA15-02-V5	1
D302	407 005 3805	DIODE DS442-BT	1
D303	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D304	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D305	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D306	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D307	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D308	407 061 2200	DIODE 1SS254-TA	1
D309	407 061 2200	DIODE 1SS254-TA	1
C101	403 177 5500	POLYPRO 560P J 50V	1
C102	403 177 5500	POLYPRO 560P J 50V	1
C103	403 058 1003	POLYESTER 1500P J 50V	1
C104	403 058 1003	POLYESTER 1500P J 50V	1
C105	403 058 9801	POLYESTER 0.018U J 50V	1
C106	403 058 9801	POLYESTER 0.018U J 50V	1
C107	403 177 4602	ELECT 220U M 6.3V	1
C108	403 177 4602	ELECT 220U M 6.3V	1
C109	403 068 9402	CERAMIC 100P K 50V	1
C110	403 068 9402	CERAMIC 100P K 50V	1
C111	403 177 3209	ELECT 4.7U M 25V	1
C112	403 177 3209	ELECT 4.7U M 25V	1
C115	403 177 5104	ELECT 2.2U M 50V	1
C116	403 177 5104	ELECT 2.2U M 50V	1
C117	403 177 5005	ELECT 10U M 25V	1
C118	403 177 5005	ELECT 10U M 25V	1
C119	403 149 7105	POLYPRO 680P J 100V	1
C120	403 149 7105	POLYPRO 680P J 100V	1
C121	403 149 7105	POLYPRO 680P J 100V	1
C122	403 149 7105	POLYPRO 680P J 100V	1
C123	403 061 8006	POLYESTER 4700P J 50V	1
C124	403 061 8006	POLYESTER 4700P J 50V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C125	403 067 7805	MT-COMPO	0.47U	J	50V	1
C126	403 067 7805	MT-COMPO	0.47U	J	50V	1
C127	403 067 6204	MT-COMPO	0.15U	J	50V	1
C128	403 067 6204	MT-COMPO	0.15U	J	50V	1
C129	403 058 3106	POLYESTER	0.015U	J	50V	1
C130	403 058 3106	POLYESTER	0.015U	J	50V	1
C131	403 067 6709	MT-COMPO	0.22U	J	50V	1
C132	403 067 6709	MT-COMPO	0.22U	J	50V	1
C133	403 067 8208	MT-COMPO	0.068U	J	50V	1
C134	403 067 8208	MT-COMPO	0.068U	J	50V	1
C135	403 067 7706	MT-COMPO	0.047U	J	50V	1
C136	403 067 7706	MT-COMPO	0.047U	J	50V	1
C137	403 062 9903	POLYESTER	6800P	J	50V	1
C138	403 062 9903	POLYESTER	6800P	J	50V	1
C139	403 057 0304	POLYESTER	0.01U	J	50V	1
C140	403 057 0304	POLYESTER	0.01U	J	50V	1
C141	403 177 3209	ELECT	4.7U	M	25V	1
C142	403 177 3209	ELECT	4.7U	M	25V	1
C143	403 177 3209	ELECT	4.7U	M	25V	1
C144	403 177 3209	ELECT	4.7U	M	25V	1
C145	403 177 3209	ELECT	4.7U	M	25V	1
C146	403 177 3209	ELECT	4.7U	M	25V	1
C147	403 067 5603	MT-COMPO	0.1U	J	50V	1
C148	403 067 5603	MT-COMPO	0.1U	J	50V	1
C149	403 067 5603	MT-COMPO	0.1U	J	50V	1
C150	403 067 5603	MT-COMPO	0.1U	J	50V	1
C151	403 060 6003	POLYESTER	3300P	J	50V	1
C152	403 060 6003	POLYESTER	3300P	J	50V	1
C153	403 060 6003	POLYESTER	3300P	J	50V	1
C154	403 060 6003	POLYESTER	3300P	J	50V	1
C155	403 081 6105	POLYPRO	330P	J	100V	1
C156	403 081 6105	POLYPRO	330P	J	100V	1
C157	403 067 7300	MT-COMPO	0.33U	J	50V	1
C158	403 067 7300	MT-COMPO	0.33U	J	50V	1
C159	403 067 7201	MT-COMPO	0.033U	J	50V	1
C160	403 067 7201	MT-COMPO	0.033U	J	50V	1
C161	403 177 6200	TA-SOLID	10U	M	4V	1
C162	403 177 6200	TA-SOLID	10U	M	4V	1
C163	403 177 6309	TA-SOLID	68U	M	4V	1
C164	403 177 6309	TA-SOLID	68U	M	4V	1
C165	403 081 8505	POLYPRO	390P	J	100V	1
C166	403 081 8505	POLYPRO	390P	J	100V	1
C167	403 059 5802	POLYESTER	0.022U	J	50V	1
C168	403 059 5802	POLYESTER	0.022U	J	50V	1
C169	403 061 8006	POLYESTER	4700P	J	50V	1
C170	403 061 8006	POLYESTER	4700P	J	50V	1
C171	403 177 5005	ELECT	10U	M	25V	1
C172	403 177 5005	ELECT	10U	M	25V	1
C173	403 071 6207	CERAMIC	220P	K	50V	1
C174	403 071 6207	CERAMIC	220P	K	50V	1
C175	403 177 5609	POLYPRO	820P	J	50V	1
C176	403 177 5609	POLYPRO	820P	J	50V	1
C177	403 058 9801	POLYESTER	0.018U	J	50V	1
C178	403 058 9801	POLYESTER	0.018U	J	50V	1
C179	403 068 9402	CERAMIC	100P	K	50V	1
C180	403 068 9402	CERAMIC	100P	K	50V	1
C181	403 177 4602	ELECT	220U	M	6.3V	1
C182	403 177 4602	ELECT	220U	M	6.3V	1
C183	403 177 3209	ELECT	4.7U	M	25V	1
C184	403 177 3209	ELECT	4.7U	M	25V	1
C185	403 067 6204	MT-COMPO	0.15U	J	50V	1
C186	403 067 6204	MT-COMPO	0.15U	J	50V	1
C187	403 177 5104	ELECT	2.2U	M	50V	1
C188	403 177 5104	ELECT	2.2U	M	50V	1
C189	403 081 6105	POLYPRO	330P	J	100V	1
C190	403 081 6105	POLYPRO	330P	J	100V	1
C191	403 178 7701	POLYPRO	180P	J	250V	1
C192	403 178 7701	POLYPRO	180P	J	250V	1
C193	403 004 0500	CERAMIC	0.047U	K	25V	1
C194	403 004 0500	CERAMIC	0.047U	K	25V	1
C195	403 004 0500	CERAMIC	0.047U	K	25V	1
C196	403 004 0500	CERAMIC	0.047U	K	25V	1
C197	403 003 2802	CERAMIC	0.022U	K	25V	1
C198	403 003 2802	CERAMIC	0.022U	K	25V	1
C199	403 042 0302	ELECT	10U	M	16V	1
C200	403 042 0302	ELECT	10U	M	16V	1
C201	403 073 7004	CERAMIC	470P	K	50V	1
C202	403 073 7004	CERAMIC	470P	K	50V	1
C203	403 082 0300	POLYPRO	470P	J	100V	1

Ref. No.	Part No.	Description				Q'ty
C204	403 082 0300	POLYPRO	470P	J	100V	1
C205	403 059 5802	POLYESTER	0.022U	J	50V	1
C206	403 059 5802	POLYESTER	0.022U	J	50V	1
C207	403 177 1007	ELECT	100U	M	6.3V	1
C208	403 177 1007	ELECT	100U	M	6.3V	1
C211	403 082 2304	POLYPRO	560P	J	100V	1
C212	403 082 2304	POLYPRO	560P	J	100V	1
C213	403 057 0304	POLYESTER	0.01U	J	50V	1
C214	403 057 0304	POLYESTER	0.01U	J	50V	1
C215	403 067 8307	MT-COMPO	0.68U	J	50V	1
C216	403 067 8307	MT-COMPO	0.68U	J	50V	1
C217	403 177 3209	ELECT	4.7U	M	25V	1
C218	403 177 3209	ELECT	4.7U	M	25V	1
C301	403 177 5906	ELECT	220U	M	10V	1
C302	403 177 5906	ELECT	220U	M	10V	1
C303	403 177 5906	ELECT	220U	M	10V	1
C304	403 177 5906	ELECT	220U	M	10V	1
C305	403 074 9205	CERAMIC	680P	K	50V	1
C306	403 061 8006	POLYESTER	4700P	J	50V	1
C307	403 057 0304	POLYESTER	0.01U	J	50V	1
C308	403 048 7602	ELECT	0.47U	M	50V	1
C309	403 067 6204	MT-COMPO	0.15U	J	50V	1
C310	403 048 7602	ELECT	0.47U	M	50V	1
C311	403 039 7901	ELECT	100U	M	10V	1
C312	403 042 0302	ELECT	10U	M	16V	1
C313	403 177 1304	ELECT	1U	M	50V	1
C314	403 177 5005	ELECT	10U	M	25V	1
C315	403 047 1502	ELECT	4.7U	M	25V	1
C317	403 051 2106	ELECT	4.7U	M	50V	1
C318	403 050 7805	ELECT	3.3U	M	50V	1
C319	403 042 0302	ELECT	10U	M	16V	1
C320	403 059 3501	POLYESTER	2200P	J	50V	1
C321	403 059 3501	POLYESTER	2200P	J	50V	1
C322	403 058 3106	POLYESTER	0.015U	J	50V	1
C323	403 042 0302	ELECT	10U	M	16V	1
C324	403 082 3004	POLYPRO	5600P	J	100V	1
C325	403 073 7004	CERAMIC	470P	K	50V	1
C326	403 082 1307	POLYPRO	4700P	J	100V	1
C327	403 042 3600	ELECT	100U	M	16V	1
C328	403 083 2204	POLYPRO	0.012U	J	250V	1
C329	403 073 7004	CERAMIC	470P	K	50V	1
C330	403 073 7004	CERAMIC	470P	K	50V	1
C331	403 042 0302	ELECT	10U	M	16V	1
C332	403 057 0304	POLYESTER	0.01U	J	50V	1
C333	403 057 0304	POLYESTER	0.01U	J	50V	1
C334	403 057 0304	POLYESTER	0.01U	J	50V	1
C335	403 057 0304	POLYESTER	0.01U	J	50V	1
C336	403 183 3408	CERAMIC	33P	K	50V	1
C337	403 067 5603	MT-COMPO	0.1U	J	50V	1
C338	403 067 5603	MT-COMPO	0.1U	J	50V	1
C339	403 042 0302	ELECT	10U	M	16V	1
C340	403 057 0304	POLYESTER	0.01U	J	50V	1
C341	403 050 7805	ELECT	3.3U	M	50V	1
R101	401 148 8307	MT-FILM	100	GC	1/4W	1
R102	401 148 8307	MT-FILM	100	GC	1/4W	1
R105	401 027 0309	CARBON	47K	JA	1/6W	1
R106	401 027 0309	CARBON	47K	JA	1/6W	1
R107	401 024 7004	CARBON	1K	JA	1/6W	1
R108	401 024 7004	CARBON	1K	JA	1/6W	1
R109	401 148 8901	MT-FILM	6.8K	GC	1/4W	1
R110	401 148 8901	MT-FILM	6.8K	GC	1/4W	1
R111	401 148 9007	MT-FILM	9.1K	GC	1/4W	1
R112	401 148 9007	MT-FILM	9.1K	GC	1/4W	1
R113	401 148 8604	MT-FILM	2.7K	GC	1/4W	1
R114	401 148 8604	MT-FILM	2.7K	GC	1/4W	1
R115	401 148 8901	MT-FILM	6.8K	GC	1/4W	1
R116	401 148 8901	MT-FILM	6.8K	GC	1/4W	1
R117	401 025 4903	CARBON	180K	JA	1/6W	1
R118	401 025 4903	CARBON	180K	JA	1/6W	1
R119	401 025 1902	CARBON	15K	JA	1/6W	1
R120	401 025 1902	CARBON	15K	JA	1/6W	1
R121	401 026 4605	CARBON	33K	JA	1/6W	1
R122	401 026 4605	CARBON	33K	JA	1/6W	1
R123	401 025 0806	CARBON	13K	JA	1/6W	1
R124	401 025 0806	CARBON	13K	JA	1/6W	1
R125	401 024 9701	CARBON	12K	JA	1/6W	1
R126	401 024 9701	CARBON	12K	JA	1/6W	1
R127	401 027 4307	CARBON	6.2K	JA	1/6W	1
R128	401 027 4307	CARBON	6.2K	JA	1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description		Q'ty
R129	401 027 5502	CARBON	6.8K JA 1/6W	1
R130	401 027 5502	CARBON	6.8K JA 1/6W	1
R131	401 027 7209	CARBON	7.5K JA 1/6W	1
R132	401 027 7209	CARBON	7.5K JA 1/6W	1
R133	401 026 8504	CARBON	430 JA 1/6W	1
R134	401 026 8504	CARBON	430 JA 1/6W	1
R135	401 026 7002	CARBON	3.9K JA 1/6W	1
R136	401 026 7002	CARBON	3.9K JA 1/6W	1
R137	401 026 1000	CARBON	2.7K JA 1/6W	1
R138	401 026 1000	CARBON	2.7K JA 1/6W	1
R139	401 027 5502	CARBON	6.8K JA 1/6W	1
R140	401 027 5502	CARBON	6.8K JA 1/6W	1
R141	401 027 5205	CARBON	680 JA 1/6W	1
R142	401 027 5205	CARBON	680 JA 1/6W	1
R143	401 024 7400	CARBON	10K JA 1/6W	1
R144	401 024 7400	CARBON	10K JA 1/6W	1
R145	401 024 7004	CARBON	1K JA 1/6W	1
R146	401 024 7004	CARBON	1K JA 1/6W	1
R147	401 025 4606	CARBON	18K JA 1/6W	1
R148	401 025 4606	CARBON	18K JA 1/6W	1
R149	401 026 8702	CARBON	4.3K JA 1/6W	1
R150	401 026 8702	CARBON	4.3K JA 1/6W	1
R151	401 026 4605	CARBON	33K JA 1/6W	1
R152	401 026 4605	CARBON	33K JA 1/6W	1
R153	401 025 7805	CARBON	2.2K JA 1/6W	1
R154	401 025 7805	CARBON	2.2K JA 1/6W	1
R155	401 024 7400	CARBON	10K JA 1/6W	1
R156	401 024 7400	CARBON	10K JA 1/6W	1
R157	401 024 7707	CARBON	100K JA 1/6W	1
R158	401 024 7707	CARBON	100K JA 1/6W	1
R159	401 025 4200	CARBON	1.8K JA 1/6W	1
R160	401 025 4200	CARBON	1.8K JA 1/6W	1
R161	401 024 6403	CARBON	10 JA 1/6W	1
R162	401 024 6403	CARBON	10 JA 1/6W	1
R163	401 148 8307	MT-FILM	100 GC 1/4W	1
R164	401 148 8307	MT-FILM	100 GC 1/4W	1
R165	401 027 0309	CARBON	47K JA 1/6W	1
R166	401 027 0309	CARBON	47K JA 1/6W	1
R167	401 025 4903	CARBON	180K JA 1/6W	1
R168	401 025 4903	CARBON	180K JA 1/6W	1
R169	401 148 8901	MT-FILM	6.8K GC 1/4W	1
R170	401 148 8901	MT-FILM	6.8K GC 1/4W	1
R171	401 148 9007	MT-FILM	9.1K GC 1/4W	1
R172	401 148 9007	MT-FILM	9.1K GC 1/4W	1
R173	401 025 1902	CARBON	15K JA 1/6W	1
R174	401 025 1902	CARBON	15K JA 1/6W	1
R175	401 026 9907	CARBON	4.7K JA 1/6W	1
R176	401 026 9907	CARBON	4.7K JA 1/6W	1
R177	401 026 0300	CARBON	240K JA 1/6W	1
R178	401 026 0300	CARBON	240K JA 1/6W	1
R179	401 025 1902	CARBON	15K JA 1/6W	1
R180	401 025 1902	CARBON	15K JA 1/6W	1
R181	401 025 2305	CARBON	150K JA 1/6W	1
R182	401 025 2305	CARBON	150K JA 1/6W	1
R183	401 025 1902	CARBON	15K JA 1/6W	1
R184	401 025 1902	CARBON	15K JA 1/6W	1
R185	401 026 4308	CARBON	3.3K JA 1/6W	1
R186	401 026 4308	CARBON	3.3K JA 1/6W	1
R187	401 024 7004	CARBON	1K JA 1/6W	1
R188	401 024 7004	CARBON	1K JA 1/6W	1
R189	401 024 7400	CARBON	10K JA 1/6W	1
R190	401 024 7400	CARBON	10K JA 1/6W	1
R191	401 026 4605	CARBON	33K JA 1/6W	1
R192	401 026 4605	CARBON	33K JA 1/6W	1
R193	401 025 1902	CARBON	15K JA 1/6W	1
R194	401 025 1902	CARBON	15K JA 1/6W	1
R195	401 026 9907	CARBON	4.7K JA 1/6W	1
R196	401 026 9907	CARBON	4.7K JA 1/6W	1
R197	401 025 1308	CARBON	150 JA 1/6W	1
R198	401 025 1308	CARBON	150 JA 1/6W	1
R199	401 026 9907	CARBON	4.7K JA 1/6W	1
R200	401 026 9907	CARBON	4.7K JA 1/6W	1
R201	401 025 1902	CARBON	15K JA 1/6W	1
R202	401 025 1902	CARBON	15K JA 1/6W	1
R203	401 024 7400	CARBON	10K JA 1/6W	1
R204	401 024 7400	CARBON	10K JA 1/6W	1
R205	401 024 7400	CARBON	10K JA 1/6W	1
R206	401 024 7400	CARBON	10K JA 1/6W	1
R207	401 024 7004	CARBON	1K JA 1/6W	1
R208	401 024 7004	CARBON	1K JA 1/6W	1
R209	401 024 7400	CARBON	10K JA 1/6W	1
R210	401 024 7400	CARBON	10K JA 1/6W	1
R211	401 148 8406	MT-FILM	10K GC 1/4W	1
R212	401 148 8406	MT-FILM	10K GC 1/4W	1
R213	401 026 7606	CARBON	390K JA 1/6W	1
R214	401 026 7606	CARBON	390K JA 1/6W	1
R215	401 024 7707	CARBON	100K JA 1/6W	1
R216	401 024 7707	CARBON	100K JA 1/6W	1
R217	401 025 3302	CARBON	16K JA 1/6W	1
R218	401 025 3302	CARBON	16K JA 1/6W	1
R219	401 148 8703	MT-FILM	4.7K GC 1/4W	1
R220	401 148 8703	MT-FILM	4.7K GC 1/4W	1
R221	401 026 9907	CARBON	4.7K JA 1/6W	1
R222	401 026 9907	CARBON	4.7K JA 1/6W	1
R223	401 026 4308	CARBON	3.3K JA 1/6W	1
R224	401 026 4308	CARBON	3.3K JA 1/6W	1
R225	401 025 1902	CARBON	15K JA 1/6W	1
R226	401 025 1902	CARBON	15K JA 1/6W	1
R227	401 025 6709	CARBON	200K JA 1/6W	1
R228	401 025 6709	CARBON	200K JA 1/6W	1
R229	401 026 4605	CARBON	33K JA 1/6W	1
R230	401 026 4605	CARBON	33K JA 1/6W	1
R231	401 027 4307	CARBON	6.2K JA 1/6W	1
R232	401 027 4307	CARBON	6.2K JA 1/6W	1
R233	401 016 3809	CARBON	2.2K JA 1/4W	1
R234	401 016 3809	CARBON	2.2K JA 1/4W	1
R235	401 024 7400	CARBON	10K JA 1/6W	1
R236	401 024 7400	CARBON	10K JA 1/6W	1
R237	401 026 4308	CARBON	3.3K JA 1/6W	1
R238	401 026 4308	CARBON	3.3K JA 1/6W	1
R239	401 025 4606	CARBON	18K JA 1/6W	1
R240	401 025 4606	CARBON	18K JA 1/6W	1
R241	401 026 0003	CARBON	24K JA 1/6W	1
R242	401 026 0003	CARBON	24K JA 1/6W	1
R243	401 025 6204	CARBON	2K JA 1/6W	1
R244	401 025 6204	CARBON	2K JA 1/6W	1
R245	401 148 8505	MT-FILM	22K GC 1/4W	1
R246	401 148 8505	MT-FILM	22K GC 1/4W	1
R301	401 026 9600	CARBON	470 JA 1/6W	1
R302	401 026 9600	CARBON	470 JA 1/6W	1
R303	401 026 4605	CARBON	33K JA 1/6W	1
R304	401 026 9600	CARBON	470 JA 1/6W	1
R305	401 026 9600	CARBON	470 JA 1/6W	1
R306	401 026 4605	CARBON	33K JA 1/6W	1
R307	401 026 4605	CARBON	33K JA 1/6W	1
R308	401 026 4605	CARBON	33K JA 1/6W	1
R309	401 027 6103	CARBON	680K JA 1/6W	1
R310	401 024 7400	CARBON	10K JA 1/6W	1
R311	401 024 7004	CARBON	1K JA 1/6W	1
R312	401 025 2305	CARBON	150K JA 1/6W	1
R313	401 012 4503	CARBON	100 JA 1/4W	1
R314	401 025 8208	CARBON	22K JA 1/6W	1
R315	401 025 8208	CARBON	22K JA 1/6W	1
R316	401 026 4605	CARBON	33K JA 1/6W	1
R317	401 026 4605	CARBON	33K JA 1/6W	1
R318	401 024 7707	CARBON	100K JA 1/6W	1
R319	401 024 7707	CARBON	100K JA 1/6W	1
R320	401 012 7009	CARBON	10K JA 1/4W	1
R321	401 026 4605	CARBON	33K JA 1/6W	1
R322	401 024 7707	CARBON	100K JA 1/6W	1
R323	401 052 6505	MT-FILM	1K FA 1/6W	1
or	401 149 3202	MT-FILM	1K GC 1/4W	1
R324	401 025 8208	CARBON	22K JA 1/6W	1
R325	401 024 7400	CARBON	10K JA 1/6W	1
R326	401 024 7004	CARBON	1K JA 1/6W	1
R327	401 026 4605	CARBON	33K JA 1/6W	1
R328	401 026 4605	CARBON	33K JA 1/6W	1
R329	401 026 4308	CARBON	3.3K JA 1/6W	1
R330	401 026 4605	CARBON	33K JA 1/6W	1
R331	401 024 7400	CARBON	10K JA 1/6W	1
R332	401 021 4105	CARBON	56K JA 1/4W	1
R333	401 024 7400	CARBON	10K JA 1/6W	1
R334	401 024 7400	CARBON	10K JA 1/6W	1
R335	401 026 4605	CARBON	33K JA 1/6W	1
R336	401 027 0309	CARBON	47K JA 1/6W	1
R337	401 024 7400	CARBON	10K JA 1/6W	1
R338	401 026 4902	CARBON	330K JA 1/6W	1
R339	401 026 4902	CARBON	330K JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R340	401 024 7400	CARBON 10K JA 1/6W	1
R341	401 027 9302	CARBON 820K JA 1/6W	1
R342	401 027 5205	CARBON 680 JA 1/6W	1
R343	401 027 0309	CARBON 47K JA 1/6W	1
R344	401 027 0309	CARBON 47K JA 1/6W	1
R345	401 026 8108	CARBON 4.7 JA 1/6W	1
R346	401 024 5604	CARBON 1 JA 1/6W	1
R347	401 026 0003	CARBON 24K JA 1/6W	1
R348	402 015 3302	FUSIBLE RES 12 J- 1/4W	1
R349	402 015 4507	FUSIBLE RES 39 J- 1/4W	1
R350	402 015 2909	FUSIBLE RES 1 J- 1/4W	1
R351	401 025 0004	CARBON 120K JA 1/6W	1
R352	401 026 3202	CARBON 30K JA 1/6W	1
R353	401 027 3003	CARBON 56K JA 1/6W	1
R354	401 024 8605	CARBON 11K JA 1/6W	1
R355	401 027 0309	CARBON 47K JA 1/6W	1
R356	401 027 3003	CARBON 56K JA 1/6W	1
R357	401 026 4605	CARBON 33K JA 1/6W	1
R358	401 027 7407	CARBON 75K JA 1/6W	1
R359	401 026 1307	CARBON 27K JA 1/6W	1
R360	401 025 4606	CARBON 18K JA 1/6W	1
R361	401 026 4605	CARBON 33K JA 1/6W	1
R362	401 027 0309	CARBON 47K JA 1/6W	1
R363	401 026 4605	CARBON 33K JA 1/6W	1
R364	401 027 9005	CARBON 82K JA 1/6W	1
R365	401 026 3202	CARBON 30K JA 1/6W	1
R366	401 025 3302	CARBON 16K JA 1/6W	1
R367	401 026 9006	CARBON 43K JA 1/6W	1
R368	401 028 0308	CARBON 91K JA 1/6W	1
R369	401 026 4902	CARBON 330K JA 1/6W	1
R370	401 027 4604	CARBON 62K JA 1/6W	1
R371	401 024 7707	CARBON 100K JA 1/6W	1
R372	401 027 5908	CARBON 68K JA 1/6W	1
R373	401 026 7408	CARBON 39K JA 1/6W	1
R374	401 027 1801	CARBON 51K JA 1/6W	1
R375	401 027 7407	CARBON 75K JA 1/6W	1
R376	401 027 7407	CARBON 75K JA 1/6W	1
R377	401 027 7407	CARBON 75K JA 1/6W	1
R378	401 025 6501	CARBON 20K JA 1/6W	1
R379	401 027 1801	CARBON 51K JA 1/6W	1
R380	401 027 1801	CARBON 51K JA 1/6W	1
R381	401 027 3003	CARBON 56K JA 1/6W	1
R382	401 027 4604	CARBON 62K JA 1/6W	1
R383	401 025 0905	CARBON 130K JA 1/6W	1
R384	401 027 3003	CARBON 56K JA 1/6W	1
R385	401 026 4605	CARBON 33K JA 1/6W	1
R386	401 026 7408	CARBON 39K JA 1/6W	1
R387	401 012 4503	CARBON 100 JA 1/4W	1
R388	401 025 1605	CARBON 1.5K JA 1/6W	1
R389	401 024 7400	CARBON 10K JA 1/6W	1
R390	401 024 7400	CARBON 10K JA 1/6W	1
R391	401 024 9701	CARBON 12K JA 1/6W	1
R392	401 025 1902	CARBON 15K JA 1/6W	1
R393	401 025 7805	CARBON 2.2K JA 1/6W	1
R394	401 024 7400	CARBON 10K JA 1/6W	1
R395	401 027 2600	CARBON 5.6K JA 1/6W	1
ASSY,PCB,CONTROL			
52	620 202 0778	Assy,PCB,Control	1
	620 197 3921	Assy,Connector-S,8P	1
	620 197 4027	Assy,Connector-S,8P	1
	411 002 9104	SCR PAN 3X8	1
	411 002 9104	SCR PAN 3X8	1
	411 002 9104	SCR PAN 3X8	1
	411 002 9104	SCR PAN 3X8	1
	411 002 9104	SCR PAN 3X8	1
	411 002 9104	SCR PAN 3X8	1
	620 196 3359	Heat Sink	1
	620 196 3342	Heat Sink	1
	620 196 3342	Heat Sink	1
	620 196 3342	Heat Sink	1
	620 196 3342	Heat Sink	1
	620 196 3366	Heat Sink	1
	620 031 4763	Wire Wrap Terminal	12
	620 197 4119	Assy,Terminal	1
CN1	620 021 5947	Plug 5P	1
CN5	620 021 8344	Plug 10P	1
CN6	620 022 1641	Plug 13P	1

Ref. No.	Part No.	Description	Q'ty
CN7	620 021 8337	Plug 6P	1
CN10	620 021 8313	Plug 3P	1
CN11	620 021 5930	Plug 4P	1
CN12	620 021 8306	Plug 2P	1
CN13	620 021 8399	Plug 7P	1
CN14	620 021 8597	Plug 4P	1
CN15	620 021 5923	Plug 3P	1
CN16	620 021 8399	Plug 7P	1
CN17	620 021 8313	Plug 3P	1
CN18	620 021 5923	Plug 3P	1
CN19	620 021 5947	Plug 5P	1
CO401	620 182 6975	FARC4SA-04000	1
EC1	620 022 2587	EC Terminal 1P	2
F401 ⚠	423 003 4101	FUSE 250V T0.4A	1
F402 ⚠	423 003 4101	FUSE 250V T0.4A	1
F405 ⚠	423 005 0507	FUSE 250V T1A	1
F406 ⚠	423 005 0507	FUSE 250V T1A	1
FCLP	620 017 2721	Fuse Clip	8
P401	620 006 1377	Potentiometer 10KB	1
P402	620 006 1377	Potentiometer 10KB	1
P403	620 006 1407	Potentiometer 2.2KB	1
P404	620 006 1407	Potentiometer 2.2KB	1
P405	620 006 1377	Potentiometer 10KB	1
P406	620 006 1377	Potentiometer 10KB	1
RA401	620 004 5506	Resistor 10K-6	1
IC401	409 204 7707	IC M50941-328SP	1
IC402	409 003 0404	IC BA6138	1
IC403	409 115 8800	IC TA8121AN	1
IC404	409 115 8800	IC TA8121AN	1
IC405	409 018 4206	IC LA6393S	1
IC406	409 183 8207	IC M5F78M08L	1
IC407	409 183 8108	IC M5F78M05L	1
IC408	409 183 8306	IC M5F79M08L	1
IC409	409 034 3009	IC M5F78M12L	1
IC410	409 168 2107	IC UPC7812HF	1
IC411	409 183 8801	IC UPC78M05HF	1
IC412	409 020 6601	IC LC4001B	1
Q401	405 004 4601	TR 2SA608-F-SPA-AC	1
Q402	405 001 0200	TR RN1202-TPE4	1
Q403	405 001 0200	TR RN1202-TPE4	1
Q404	405 001 1108	TR RN2202-TPE4	1
Q405	405 001 0200	TR RN1202-TPE4	1
Q406	405 052 8002	TR 2SB1274-R	1
or	405 052 8101	TR 2SB1274-S	1
Q407	405 035 1402	TR RN1205-TP	1
Q408	405 001 0200	TR RN1202-TPE4	1
Q409	405 021 0600	TR 2SD1012-G-SPA-AC	1
or	405 021 0204	TR 2SD1012-F-SPA-AC	1
Q410	405 021 0600	TR 2SD1012-G-SPA-AC	1
or	405 021 0204	TR 2SD1012-F-SPA-AC	1
Q411	405 079 7200	TR DTB123YS-TP	1
Q412	405 079 7200	TR DTB123YS-TP	1
Q413	405 019 2906	TR 2SC536-F-SP-AC	1
Q414	405 001 0200	TR RN1202-TPE4	1
Q415	405 019 2906	TR 2SC536-F-SP-AC	1
Q416	405 001 0200	TR RN1202-TPE4	1
Q417	405 001 0200	TR RN1202-TPE4	1
Q418	405 001 0200	TR RN1202-TPE4	1
Q419	405 079 7200	TR DTB123YS-TP	1
Q420	405 004 4601	TR 2SA608-F-SPA-AC	1
D401	407 003 9205	DIODE DBB10C	1
D402	407 005 8602	DIODE ERA15-02	1
D403	407 005 8602	DIODE ERA15-02	1
D404	407 005 8602	DIODE ERA15-02	1
D405	407 005 8602	DIODE ERA15-02	1
D406	407 005 3805	DIODE DS442-BT	1
D407	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D408	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D409	407 005 8602	DIODE ERA15-02	1
D410	407 005 8602	DIODE ERA15-02	1
D411	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D412	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D413	407 008 0405	DIODE GMB01-BT	1
or	407 061 2200	DIODE 1SS254-TA	1
D415	407 008 0405	DIODE GMB01-BT	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
or	407 061 2200	DIODE 1SS254-TA	1
D416	407 005 3805	DIODE DS442-BT	1
D417	407 005 3805	DIODE DS442-BT	1
D418	407 005 3805	DIODE DS442-BT	1
D419	407 005 8602	DIODE ERA15-02	1
D420	407 005 8602	DIODE ERA15-02	1
D421	407 050 0200	ZENER DIODE GZA24Z	1
D422	407 050 3409	ZENER DIODE GZA4.3Y	1
C401	403 067 7904	MT-COMPO 0.056U J 50V	1
C402	403 067 7904	MT-COMPO 0.056U J 50V	1
C403	403 049 1708	ELECT 1U M 50V	1
C404	403 049 1708	ELECT 1U M 50V	1
C405	403 049 1708	ELECT 1U M 50V	1
C406	403 049 1708	ELECT 1U M 50V	1
C407	403 044 0300	ELECT 47U M 16V	1
C408	403 072 2703	CERAMIC 0.022U Z 50V	1
C409	620 197 2108	Capacitor,2200U,25V,GS	1
C410	620 197 2108	Capacitor,2200U,25V,GS	1
C411	403 177 9102	ELECT 3300U M 35V	1
C412	403 072 2703	CERAMIC 0.022U Z 50V	1
C413	403 051 9402	ELECT 100U M 63V	1
C414	403 069 8404	CERAMIC 0.01U Z 50V	1
C415	403 069 8404	CERAMIC 0.01U Z 50V	1
C416	403 051 9402	ELECT 100U M 63V	1
C417	403 045 0606	ELECT 100U M 25V	1
C418	403 045 0606	ELECT 100U M 25V	1
C419	403 067 5603	MT-COMPO 0.1U J 50V	1
C420	403 067 5603	MT-COMPO 0.1U J 50V	1
C421	403 067 5603	MT-COMPO 0.1U J 50V	1
C422	403 067 6709	MT-COMPO 0.22U J 50V	1
C423	403 049 1708	ELECT 1U M 50V	1
C424	403 043 7102	ELECT 330U M 16V	1
C425	403 049 1708	ELECT 1U M 50V	1
C426	403 049 5508	ELECT 10U M 50V	1
C427	403 050 3708	ELECT 22U M 50V	1
C428	403 067 8307	MT-COMPO 0.68U J 50V	1
C429	403 039 7901	ELECT 100U M 10V	1
C430	403 039 7901	ELECT 100U M 10V	1
C431	403 051 2106	ELECT 4.7U M 50V	1
C432	403 051 2106	ELECT 4.7U M 50V	1
C433	403 067 8208	MT-COMPO 0.068U J 50V	1
C434	403 067 8208	MT-COMPO 0.068U J 50V	1
C435	403 057 5804	POLYESTER 1200P J 50V	1
C436	403 057 5804	POLYESTER 1200P J 50V	1
C437	403 042 9008	ELECT 22U M 16V	1
C438	403 044 3004	ELECT 470U M 16V	1
C439	403 074 2701	CERAMIC 0.047U Z 50V	1
C440	403 074 2701	CERAMIC 0.047U Z 50V	1
C441	403 074 2701	CERAMIC 0.047U Z 50V	1
R401	401 014 2903	CARBON 150 JA 1/4W	1
R402	401 014 2903	CARBON 150 JA 1/4W	1
R403	401 030 9702	CARBON 33K JA 1/8W	1
R404	401 030 9702	CARBON 33K JA 1/8W	1
R405	401 031 0203	CARBON 330K JA 1/8W	1
R406	401 031 0203	CARBON 330K JA 1/8W	1
R407	401 012 4503	CARBON 100 JA 1/4W	1
R408	401 028 3705	CARBON 10K JA 1/8W	1
R409	401 032 1100	CARBON 56K JA 1/8W	1
R410	401 029 6804	CARBON 2.2 JA 1/8W	1
R412	401 017 2801	CARBON 27K JA 1/4W	1
R413	401 028 3705	CARBON 10K JA 1/8W	1
R414	401 028 3705	CARBON 10K JA 1/8W	1
R415	401 012 7009	CARBON 10K JA 1/4W	1
R416	401 029 1502	CARBON 15K JA 1/8W	1
R417	401 030 9702	CARBON 33K JA 1/8W	1
R418	401 028 3705	CARBON 10K JA 1/8W	1
R419	401 030 9702	CARBON 33K JA 1/8W	1
R420	401 030 9702	CARBON 33K JA 1/8W	1
R421	401 028 3705	CARBON 10K JA 1/8W	1
R422	401 014 4105	CARBON 1.5K JA 1/4W	1
R423	401 028 4702	CARBON 1M JA 1/8W	1
R424	401 020 2003	CARBON 4.7K JA 1/4W	1
R425	401 030 8200	CARBON 33 JA 1/8W	1
R426	401 030 8200	CARBON 33 JA 1/8W	1
R427	401 028 2609	CARBON 100 JA 1/8W	1
R428	401 028 2609	CARBON 100 JA 1/8W	1
R429	401 029 1502	CARBON 15K JA 1/8W	1
R430	401 029 1502	CARBON 15K JA 1/8W	1
R431	401 031 9602	CARBON 56 JA 1/8W	1
R432	401 031 9602	CARBON 56 JA 1/8W	1
R433	401 030 0709	CARBON 22K JA 1/8W	1
R434	401 030 0709	CARBON 22K JA 1/8W	1
R435	401 029 2004	CARBON 150K JA 1/8W	1
R436	401 029 2004	CARBON 150K JA 1/8W	1
R437	401 028 3705	CARBON 10K JA 1/8W	1
R438	401 028 3705	CARBON 10K JA 1/8W	1
R439	401 030 4202	CARBON 2.7K JA 1/8W	1
R440	401 030 4202	CARBON 2.7K JA 1/8W	1
R441	401 028 7604	CARBON 12K JA 1/8W	1
R442	401 028 7604	CARBON 12K JA 1/8W	1
R443	401 028 3200	CARBON 1K JA 1/8W	1
R444	401 028 3200	CARBON 1K JA 1/8W	1
R445	401 029 5500	CARBON 18K JA 1/8W	1
R446	401 028 3705	CARBON 10K JA 1/8W	1
R447	401 028 3200	CARBON 1K JA 1/8W	1
R448	401 028 3200	CARBON 1K JA 1/8W	1
R449	401 031 3204	CARBON 390K JA 1/8W	1
R450	401 031 3204	CARBON 390K JA 1/8W	1
R451	401 028 3705	CARBON 10K JA 1/8W	1
R452	401 028 3705	CARBON 10K JA 1/8W	1
R453	401 012 7009	CARBON 10K JA 1/4W	1
R454	401 028 3705	CARBON 10K JA 1/8W	1
R455	401 028 3705	CARBON 10K JA 1/8W	1
R460	401 029 0901	CARBON 1.5K JA 1/8W	1
R465	401 029 5005	CARBON 1.8K JA 1/8W	1
R470	401 030 4202	CARBON 2.7K JA 1/8W	1
R475	401 031 6601	CARBON 4.7K JA 1/8W	1
R484	401 029 0901	CARBON 1.5K JA 1/8W	1
R485	401 029 5005	CARBON 1.8K JA 1/8W	1
R486	401 031 6601	CARBON 4.7K JA 1/8W	1
R487	401 030 4202	CARBON 2.7K JA 1/8W	1
R489	401 032 1100	CARBON 56K JA 1/8W	1
ASSY,PCB,SWITCH			
53	620 196 5629	Assy,PCB,Switch	1
	620 197 3945	Assy,Connector-S,6P	1
	620 197 4010	Assy,Connector-S,2P	1
S1	620 197 2832	Switch,Slide,1-1-2	1
S2	620 197 2849	Switch,Slide,1-1-3	1 ♦
SW1	620 197 2856	Switch,Tact	23
W29	620 197 3389	Wire,3Parallel	1
R456	401 029 0901	CARBON 1.5K JA 1/8W	1
R457	401 014 4105	CARBON 1.5K JA 1/4W	1
R458	401 029 0901	CARBON 1.5K JA 1/8W	1
R459	401 029 0901	CARBON 1.5K JA 1/8W	1
R461	401 029 5005	CARBON 1.8K JA 1/8W	1
R462	401 029 5005	CARBON 1.8K JA 1/8W	1
R463	401 029 5005	CARBON 1.8K JA 1/8W	1
R464	401 029 5005	CARBON 1.8K JA 1/8W	1
R466	401 030 4202	CARBON 2.7K JA 1/8W	1
R467	401 030 4202	CARBON 2.7K JA 1/8W	1
R468	401 030 4202	CARBON 2.7K JA 1/8W	1
R469	401 030 4202	CARBON 2.7K JA 1/8W	1
R471	401 031 6601	CARBON 4.7K JA 1/8W	1
R472	401 031 6601	CARBON 4.7K JA 1/8W	1
R473	401 031 6601	CARBON 4.7K JA 1/8W	1
R474	401 031 6601	CARBON 4.7K JA 1/8W	1
R476	401 032 8703	CARBON 8.2K JA 1/8W	1
R477	401 032 8703	CARBON 8.2K JA 1/8W	1
R478	401 032 8703	CARBON 8.2K JA 1/8W	1
R479	401 032 8703	CARBON 8.2K JA 1/8W	1
R481	401 015 3800	CARBON 18K JA 1/4W	1
R482	401 015 3800	CARBON 18K JA 1/4W	1
R483	401 029 5500	CARBON 18K JA 1/8W	1
R488	401 029 5500	CARBON 18K JA 1/8W	1
ASSY,PCB,FL			
54	620 196 5636	Assy,PCB,FL	1
	620 197 3990	Assy,Connector-S,10P	1
	620 197 3983	Assy,Connector-S,13P	1
	620 195 5156	Spacer,FL	2
FL1	620 196 3946	Fluorescent Tube,Deck	1
ASSY,PCB,POWER			
55	620 202 0785	Assy,PCB,Power	1
	620 053 7025	Cover Safety	1
C601	⚠ 620 006 6679	Capacitor 0.01MF400V	1
S1	⚠ 620 197 2863	Switch,Push,1-1	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
ASSY,PCB,REMOCON			
56	620 196 5650	Assy,PCB,Remocon	1
	620 196 1935	Converter,QH3111H0	1
	620 197 3914	Assy,Connector-S,3P	1
ASSY,PCB,HEADPHONE			
57	620 196 5667	Assy,PCB,Headphone	1
	620 197 3938	Assy,Connector-S,5P	1
JK501	620 196 3960	Jack,H/P,6.3D,Gold	1
V1	620 197 2818	VR,Rotary,2X50KA	1
IC501	409 074 1300	IC M5216L	1
Q501	405 035 9101	TR BS170-TP	1
Q502	405 035 9101	TR BS170-TP	1
D501	407 008 0405	DIODE GMB01-BT	1
or	407 005 3805	DIODE DS442-BT	1
C501	403 067 5900	MT-COMPO 0.12U J 50V	1
C502	403 067 5900	MT-COMPO 0.12U J 50V	1
C503	403 028 3808	CERAMIC 56P J 50V	1
C504	403 028 3808	CERAMIC 56P J 50V	1
C505	403 067 8208	MT-COMPO 0.068U J 50V	1
C506	403 067 8208	MT-COMPO 0.068U J 50V	1
C507	403 059 5802	POLYESTER 0.022U J 50V	1
C508	403 059 5802	POLYESTER 0.022U J 50V	1
C509	403 044 0300	ELECT 47U M 16V	1
R501	401 028 3705	CARBON 10K JA 1/8W	1
R502	401 028 3705	CARBON 10K JA 1/8W	1
R503	401 030 7708	CARBON 30K JA 1/8W	1
R504	401 030 7708	CARBON 30K JA 1/8W	1
R505	401 028 6102	CARBON 110K JA 1/8W	1
R506	401 028 6102	CARBON 110K JA 1/8W	1
R507	401 032 3500	CARBON 68 JA 1/8W	1
R508	401 032 3500	CARBON 68 JA 1/8W	1
R509	401 028 2609	CARBON 100 JA 1/8W	1
R510	401 028 2609	CARBON 100 JA 1/8W	1
R511	401 032 1100	CARBON 56K JA 1/8W	1
ASSY,PCB,ROTARY			
58	620 196 5674	Assy,PCB,Rotary	1
	620 197 3952	Assy,Connector-S,5P	1
S1	620 197 2870	Switch,Rotary,4-2-5	1
ASSY,PCB,VOLUME			
59	620 196 5681	Assy,PCB,Volume	1
	620 197 3969	Assy,Connector-S,6P	1
	620 197 3976	Assy,Connector-S,3P	1
	620 196 1669	Shield,Volume	1
VAL1	620 197 2825	VR,Rotary,1X200KW	1
VOL1	620 197 2818	VR,Rotary,2X50KA	1
ASSY,PCB,SUB SWITCH			
60	620 196 5698	Assy,PCB,SUB Switch	1
SW1	620 197 2856	Switch,Tact	2
ASSY,PCB,ADJUST,D.1			
81	620 197 3419	Assy,PCB,Adjust,D.1	1
	620 197 3860	Assy,Connector-S,4P	1
P701	620 006 1964	Potentiometer 200KB	1
R701	401 030 3700	CARBON 270 JA 1/8W	1
R702	401 032 5108	CARBON 68K JA 1/8W	1
R703	401 030 3700	CARBON 270 JA 1/8W	1
PHOTO.DET.ASSY			
83	620 080 2871	Photo.DET.Assy	1
PHI1	407 094 3809	PHOTO COUPLE GP2S06-B	1
ASSY,PCB,ADJUST,D.2			
91	620 197 3433	Assy,PCB,Adjust,D.2	1
	620 197 4058	Assy,Connector-S,3P	1
P702	620 006 1964	Potentiometer 200KB	1
R704	401 030 3700	CARBON 270 JA 1/8W	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

Ref. No.	Part No.	Description	Q'ty

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

IC & TRANSISTOR DC VOLTAGES

IC PIN NUMBERS DC VOLTAGES																				
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
IC303	CX20187	0V	3.1V	0V	7.8V	0V	0V	0V	0V	0V	0V	0V	0V	−7.7V	−7.8V	0V	−7.6V	−7.8V	0V	0V	0V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0V	0V	0V	0V	0V	−7.8V	−7.7V	0V	−7.8V	−7.7V	0V	0V	0V	0V	0V	0V	0V	0V	−8.1V	0V
		41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
		−6.8V	3.3V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																				
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
IC304	AN6291	4.8V	0V	0.8V	0.3V	0.6V	0.6V	1.3V	1.3V	1.3V	1.3V	4.9V	0.4V	4.9V	1.3V	1.3V	1.3V	0.5V	0.5V	0.2V	0.8V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0V	4.9V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																				
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
IC401	M50941	5.0V	0V	0V	5.0V	5.0V	5.0V	5.0V	5.0V	5.0V	0V	0V	0V	0V	0V	0V	0V	4.9V	0V	0V	0V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		0V	0V	0V	0V	0V	0V	5.0V	2.3V	0.8V	0V	4.8V	0V	0V	0V	0V	4.9V	5.0V	−28.2V	−16.6V	−16.6V
		41	**42**	**43**	**44**	**45**	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
		−16.6V	−22.1V	−16.6V	−16.6V	−11.2V	−16.5V	−17.0V	−17.0V	−27.7V	−17.0V	−17.0V	−17.0V	−23.0V	−23.1V	−22.7V	−22.7V	−22.9V	−22.8V	−27.1V	4.9V
		61	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**
		4.9V	4.9V	5.0V	5.0V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																				
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
IC403	TA8121AN	0V	0V	0V	0V	0V	0V	10.5V	10.5V	10.5V	0V	0V	0V	0V	0.3V	5.2V	0.6V	10.5V	0V	9.4V	0.6V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		1.6V	0V	1.6V	5.9V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																				
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
IC404	TA8121AN	0V	0V	0V	0V	0V	0V	10.5V	10.5V	10.5V	0V	0V	0V	0V	1.0V	5.2V	0.6V	10.5V	0V	9.4V	0.7V
		21	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**
		1.6V	0V	1.5V	5.8V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES															
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
IC402	BA6138	0V	0V	0.5V	2.0V	0V	2.0V	0.6V	0V	11.0V	–	–	–	–	–
IC405	LA6393S	5.0V	0.6V	1.7V	2.9V	0V	1.7V	3.6V	0V	5.0V	–	–	–	–	–
IC406	M5F78M08L	14.3V	0V	7.8V	–	–	–	–	–	–	–	–	–	–	–
IC407	M5F78M05L	14.4V	0V	4.9V	–	–	–	–	–	–	–	–	–	–	–
IC408	M5F79M08L	0V	−14.7V	−8.1V	–	–	–	–	–	–	–	–	–	–	–
IC409	M5F78M12L	23.1V	0V	11.5V	–	–	–	–	–	–	–	–	–	–	–
IC410	UPC7812HF	23.0V	0V	11.9V	–	–	–	–	–	–	–	–	–	–	–
IC411	UPC78M05HF	11.9V	0V	5.0V	–	–	–	–	–	–	–	–	–	–	–
IC412	LC4001B	4.9V	4.9V	0V	5.0V	0V	0V	0V	0V	0V	0V	0V	0V	0V	0V

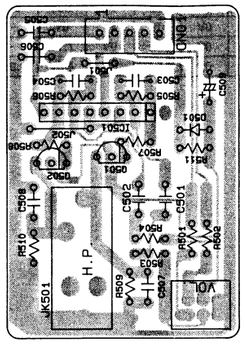
IC & TRANSISTOR DC VOLTAGES (Continued)

IC PIN NUMBERS DC VOLTAGES																		
Ref. No.	**DEVICE**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
IC301	UPC4570	5.3V	0V	0V	0V	−5.6V	0V	0V	0V	5.3V	–	–	–	–	–	–	–	–	–
IC305	UPC4570	7.8V	0V	0V	0V	−8.1V	0V	0V	0V	7.8V	–	–	–	–	–	–	–	–	–
IC306	UPC4072	7.8V	0V	0V	0V	0V	0V	0V	0V	7.7V	–	–	–	–	–	–	–	–	–
IC307	UPC4570	7.8V	0V	0V	0V	−8.1V	0V	0V	0V	7.8V	–	–	–	–	–	–	–	–	–
IC308	CXA1198	1.2V	1.2V	1.2V	0V	−8.1V	0V	0V	1.0V	1.2V	0V	0V	7.8V	1.2V	1.2V	1.2V	1.2V	1.2V	–
IC309	UPC1297	0V	0V	0V	0.2V	0V	0V	0.1V	0.1V	0V	0V	0.1V	0.1V	0V	0V	0.3V	0V	0V	0.1V
IC310	TC4052	0V	0V	0V	0V	0V	0V	−8.1V	0V	0V	0V	0V	0V	0V	0V	0V	4.9V	–	–
IC311	TC4052	0V	0V	0V	0V	0V	0V	−8.1V	0V	4.2V	0V	0V	0V	0V	0V	0V	4.9V	–	–
IC312	TC4053BP	4.9V	0V	0V	0V	1.3V	0V	−8.1V	0V	4.2V	4.2V	4.2V	1.3V	0V	0V	4.9V	4.9V	–	–
IC313	TC4052	0V	0V	0V	0V	0V	0V	−8.1V	0V	0V	0V	0V	0V	0V	0V	0V	4.9V	–	–
IC315	TC4051	1.2V	0V	0V	0V	1.2V	0V	−8.1V	0V	4.3V	4.9V	4.9V	1.2V	1.2V	1.2V	0V	4.9V	–	–
IC316	TC4001	4.8V	4.8V	0V	0V	4.8V	4.8V	0V	0V	4.2V	0V	0V	4.2V	4.7V	4.9V	–	–	–	–
IC317	TC4052	0V	0V	0V	0V	0V	0V	0V	0V	0V	–	–	–	–	–	–	–	–	–
IC318	LA2000	1.9V	0V	1.9V	0V	0V	0V	0V	0V	7.1V	–	–	–	–	–	–	–	–	–
IC319	TC4052	0V	0V	0V	0V	0V	0V	−5.6V	0V	4.3V	4.9V	0V	0V	0V	0V	0V	4.9V	–	–

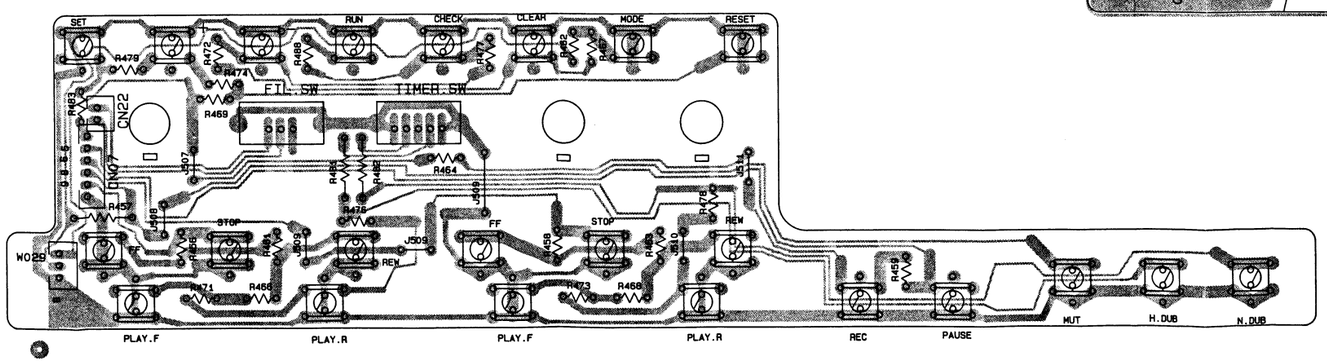
TRANSISTOR DC VOLTAGES				
Ref. No.	**DEVICE**	**B**	**C**	**E**
Q115	2SC1571	2.5V	4.9V	1.9V
Q116	2SC1571	2.6V	4.9V	2.0V

TRANSISTOR DC VOLTAGES				
Ref. No.	**DEVICE**	**B**	**C**	**E**
Q401	2SA608	11.4V	0.2V	11.2V
Q406	2SB1274	−28.8V	−38.7V	−28.2V
Q420	2SA608	11.2V	0V	11.0V

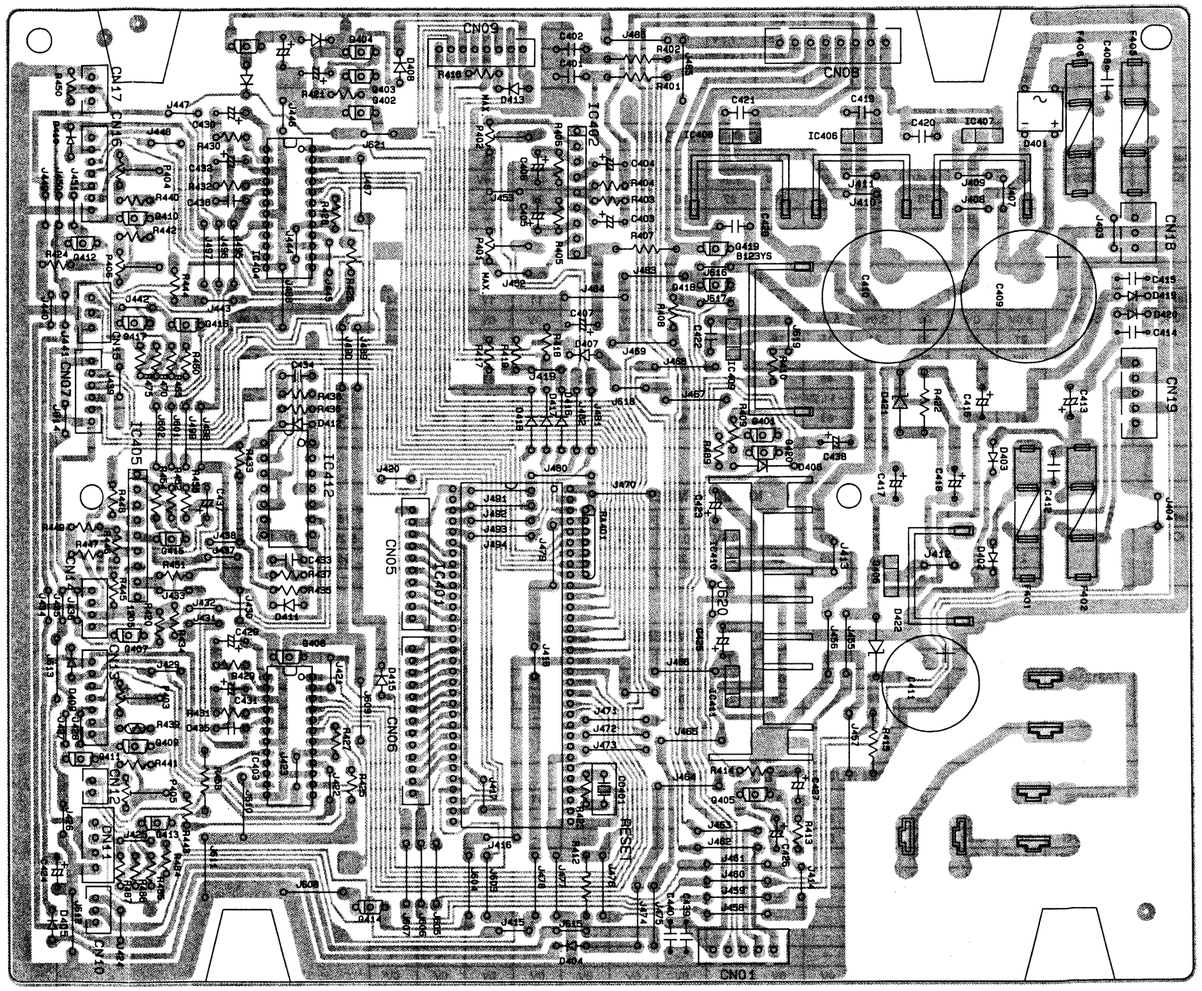
HEADPHONE P.C.BOARD
(BOTTOM VIEW)



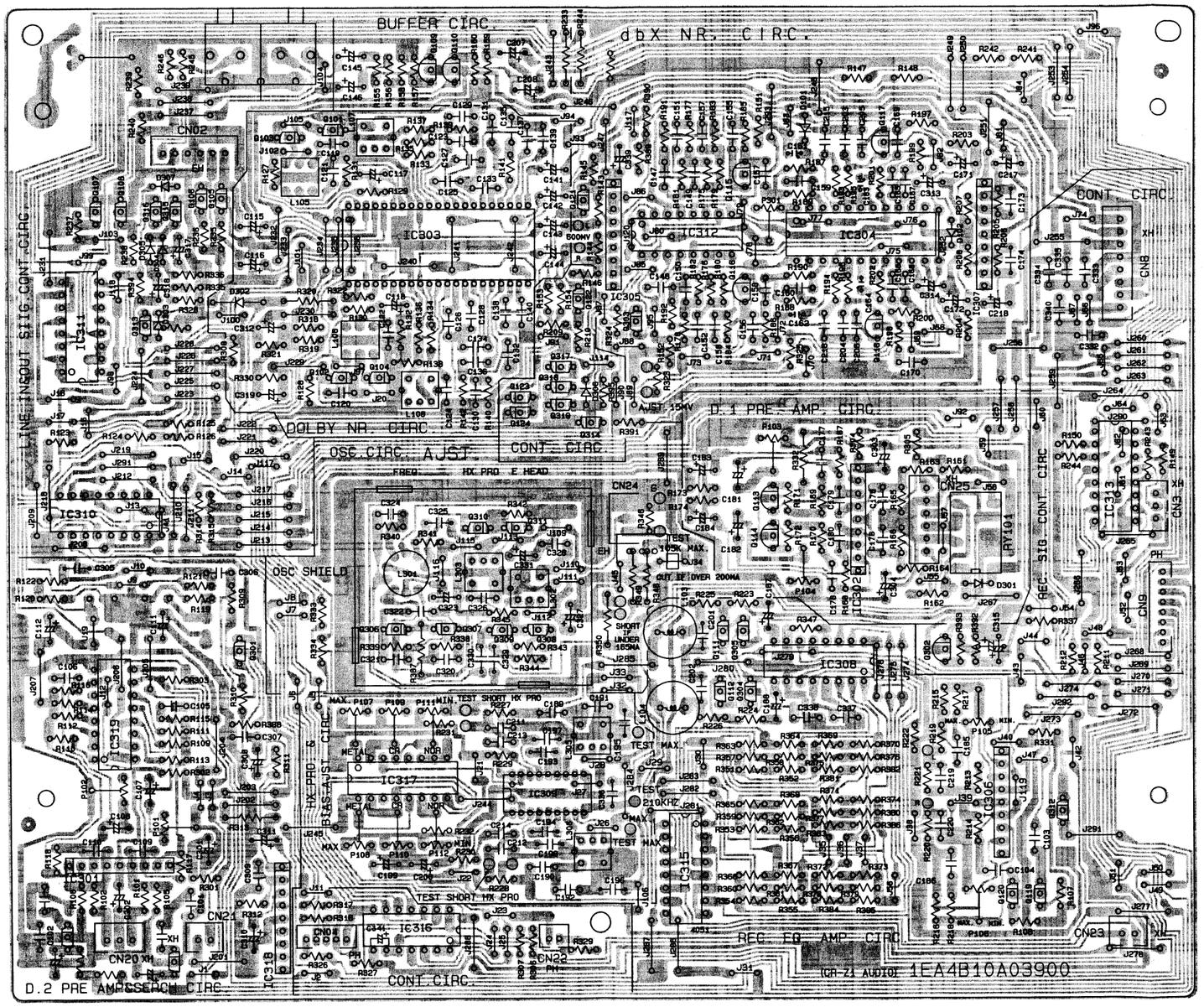
SWITCH P.C.BOARD
(BOTTOM VIEW)



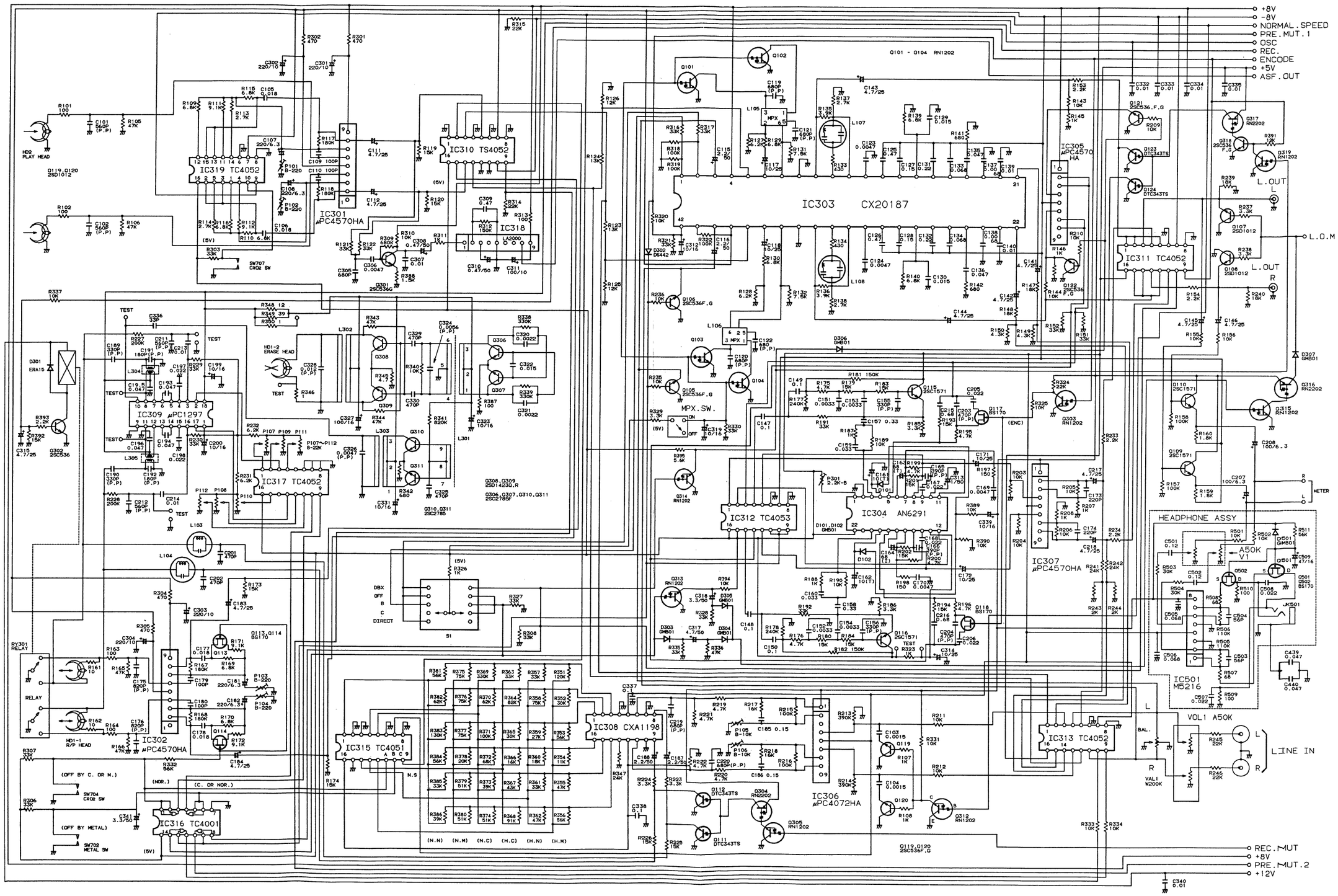
CONTROL P.C.BOARD
(BOTTOM VIEW)



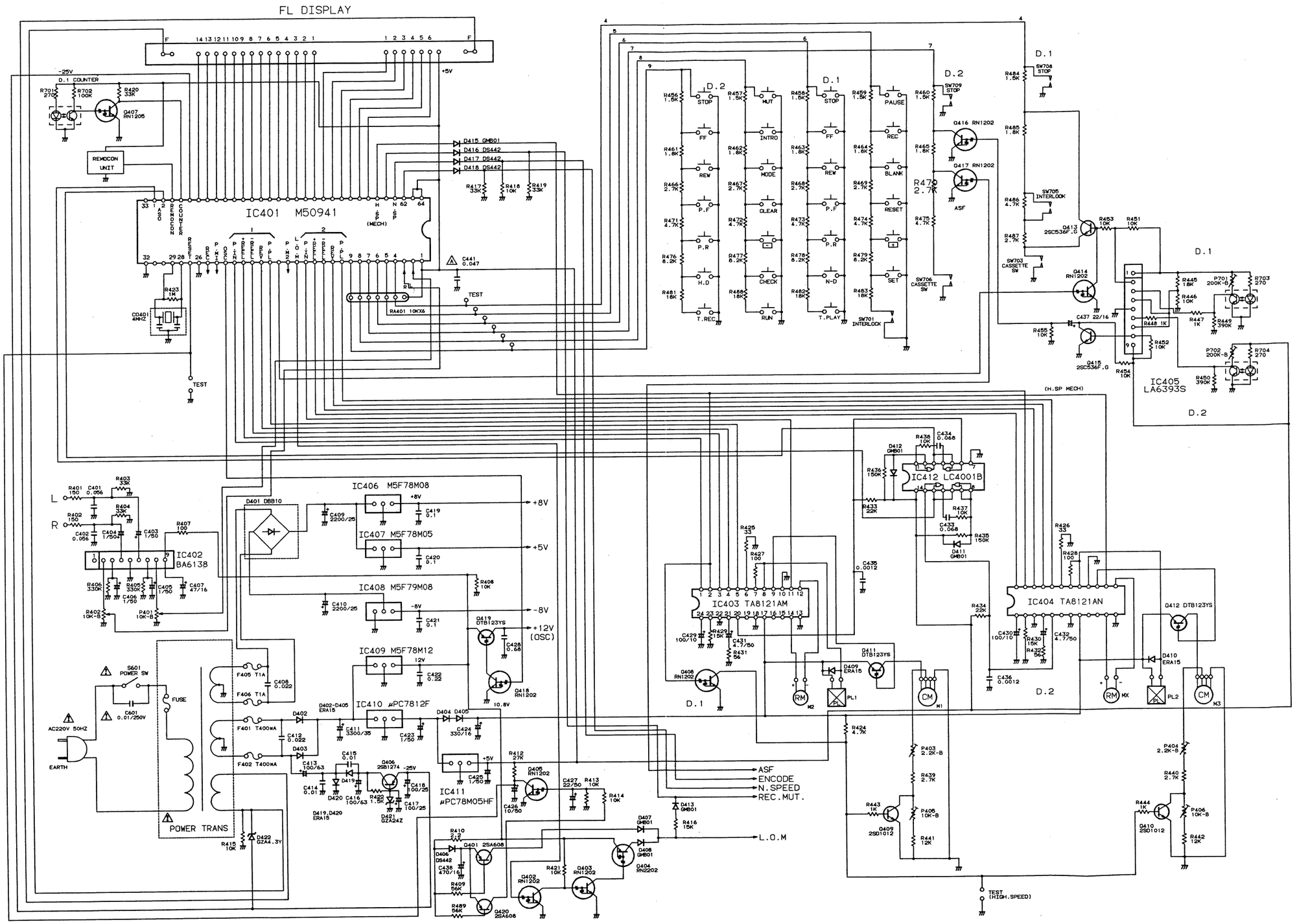
AUDIO P.C.BOARD
(BOTTOM VIEW)



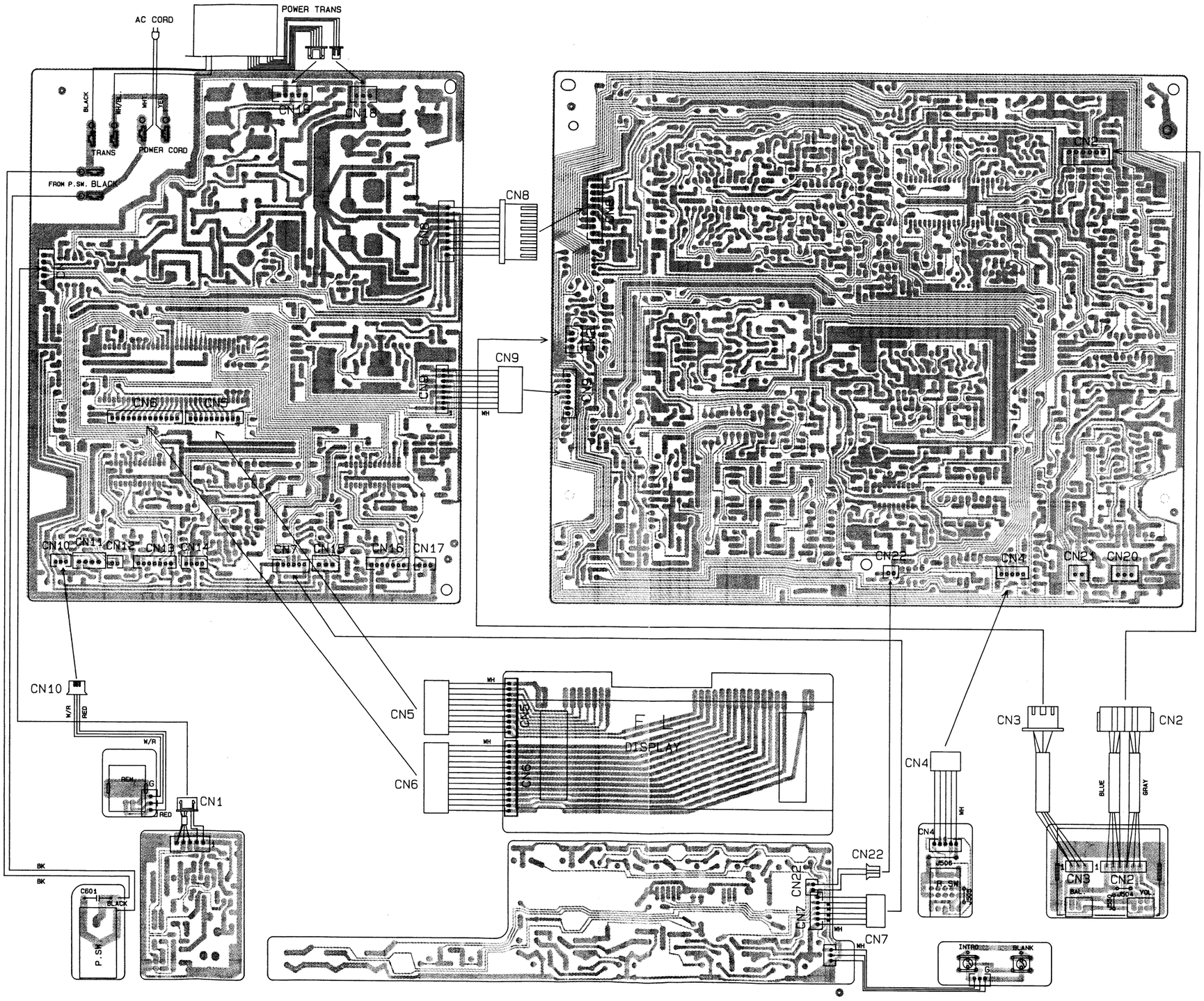
SCHEMATIC DIAGRAM (Amplifier)

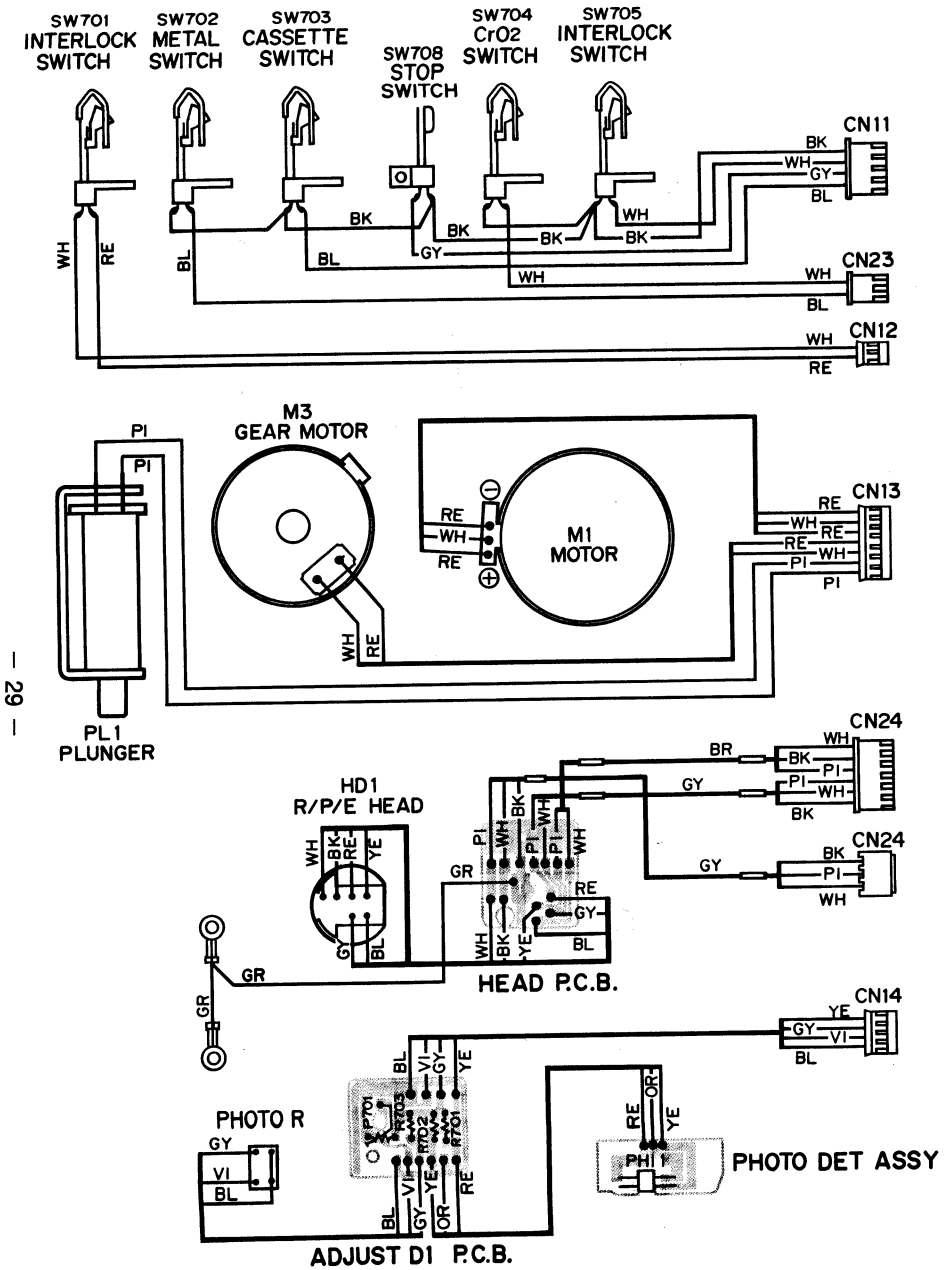


SCHEMATIC DIAGRAM (Control)

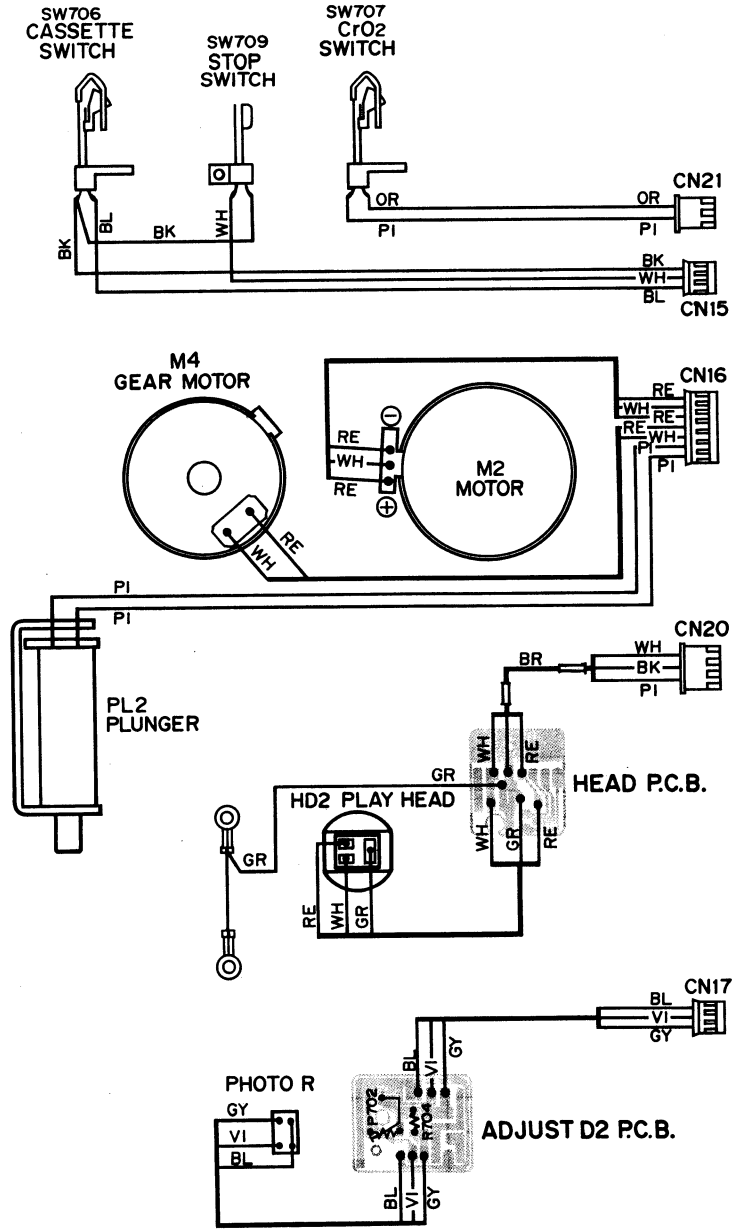


WIRING DIAGRAM (1)



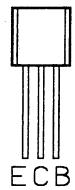
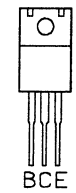
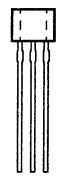
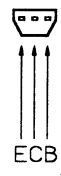
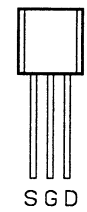
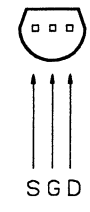

SW701 INTERLOCK SWITCH
SW702 METAL SWITCH
SW703 CASSETTE SWITCH
SW708 STOP SWITCH
SW704 CrO2 SWITCH
SW705 INTERLOCK SWITCH
CN11
CN23
CN12
M3 GEAR MOTOR
M1 MOTOR
CN13
PL1 PLUNGER
HD1 R/P/E HEAD
CN24
CN24
HEAD P.C.B.
CN14
PHOTO R
PHOTO DET ASSY
ADJUST D1 P.C.B.

DECK 1


SW706 CASSETTE SWITCH
SW709 STOP SWITCH
SW707 CrO2 SWITCH
CN21
CN15
M4 GEAR MOTOR
M2 MOTOR
CN16
PL2 PLUNGER
CN20
HD2 PLAY HEAD
HEAD P.C.B.
CN17
PHOTO R
ADJUST D2 P.C.B.

DECK 2

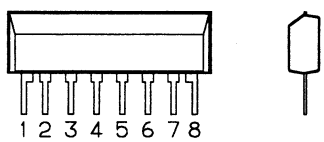
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SC1571 2SC536			2SB1274		
DTB123YS DTC343TS RN1202 RN1205 RN2202 2SA608 2SC536 2SD1012			BS170		

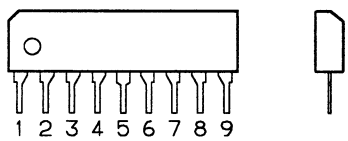
TERMINAL NAME

B → BASE
C → COLLECTOR
E → EMITTER
S → SOURCE
G → GATE
D → DRAIN

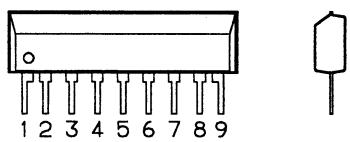
M5216L FRONT/SIDE VIEWS



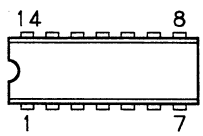
LA2000 FRONT/SIDE VIEWS
LA6393S FRONT/SIDE VIEWS



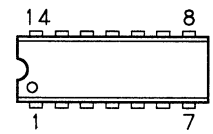
UPC4072HA FRONT/SIDE VIEWS
UPC4570HA FRONT/SIDE VIEWS



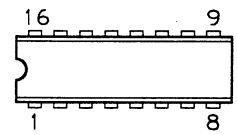
TC4001BP TOP VIEW



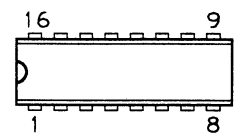
LC4001B TOP VIEW



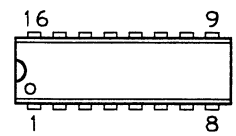
TC4051BP TOP VIEW
TC4052BP TOP VIEW



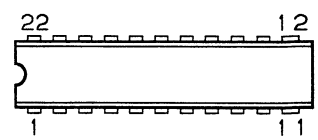
TC4053BP TOP VIEW



CXA1198AP TOP VIEW

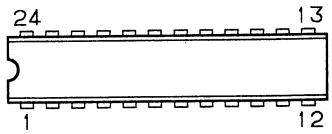


AN6291 TOP VIEW

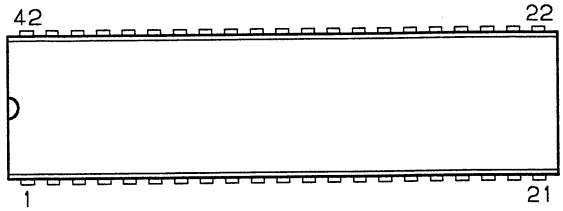


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

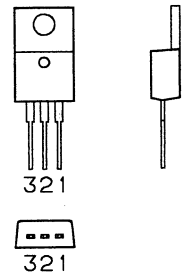
TA8121AN TOP VIEW



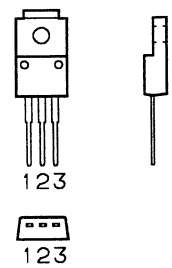
CX20187 TOP VIEW



UPC78M05HF TOP/SIDE VIEWS
UPC7812HF TOP/SIDE VIEWS

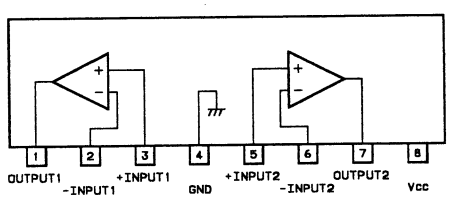


M5F78M05L TOP/SIDE VIEWS
M5F78M08L TOP/SIDE VIEWS
M5F78M12L TOP/SIDE VIEWS
M5F79M08L TOP/SIDE VIEWS

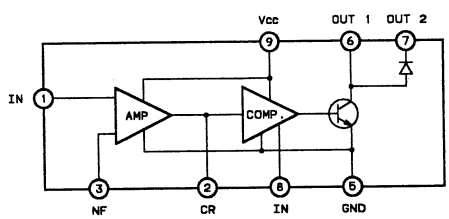


IC BLOCK DIAGRAM

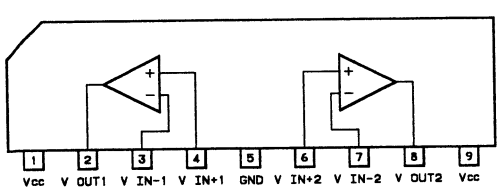
M5216L BLOCK DIAGRAM



LA2000 BLOCK DIAGRAM



LA6393S BLOCK DIAGRAM



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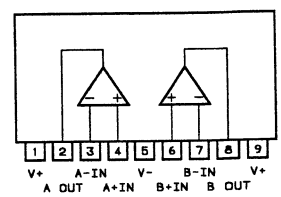
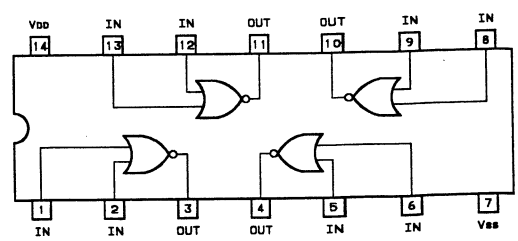
UPC4570HA BLOCK DIAGRAM

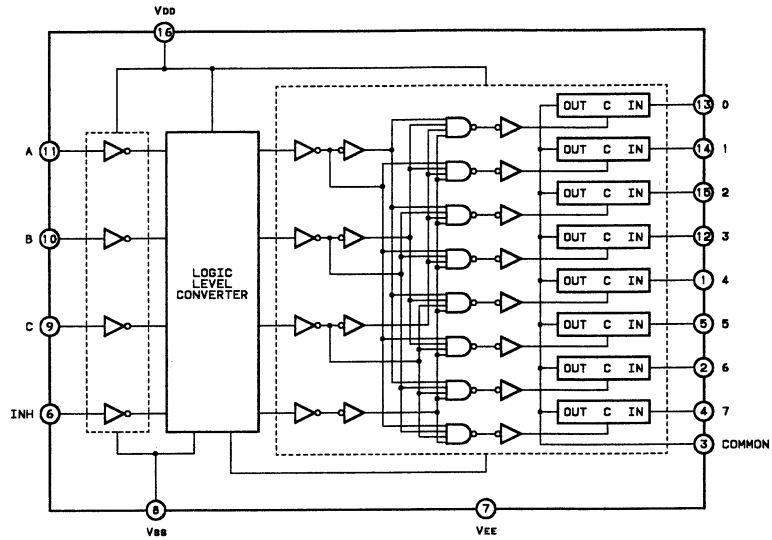


TC4001BP BLOCK DIAGRAM
LC4001B BLOCK DIAGRAM

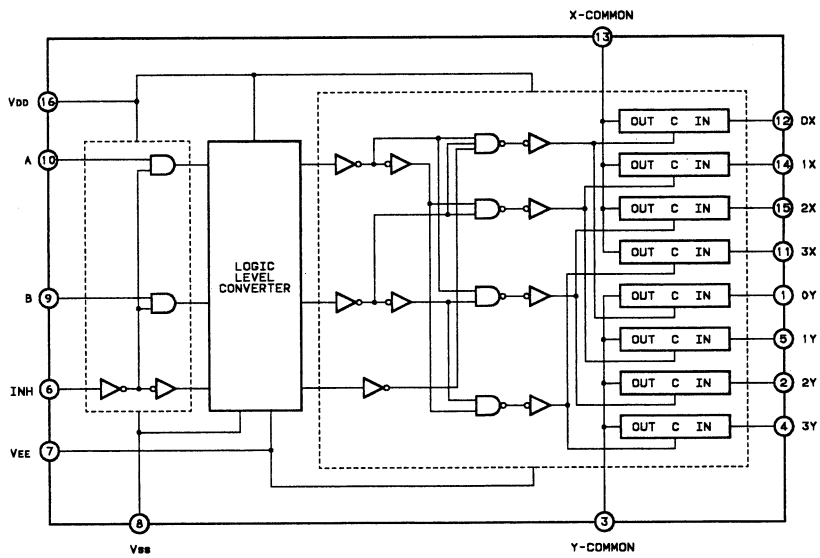


IC BLOCK DIAGRAM (Continued)

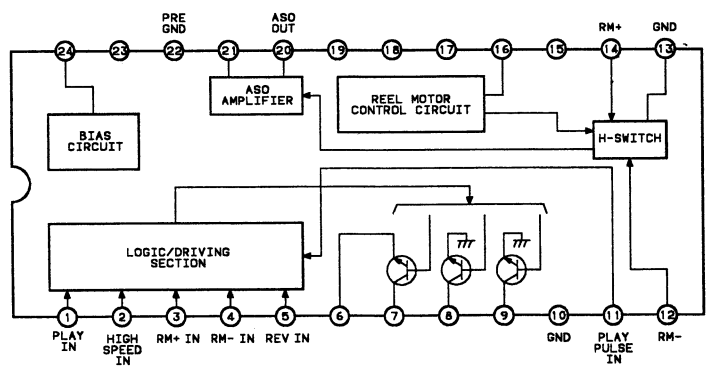
TC4051BP BLOCK DIAGRAM



TC4052BP BLOCK DIAGRAM

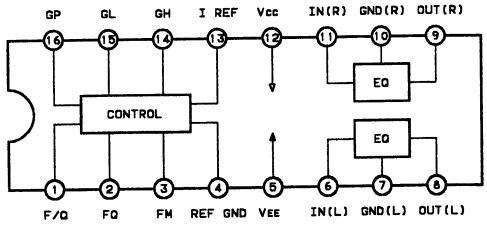


TA8121AN BLOCK DIAGRAM



IC BLOCK DIAGRAM (Continued)

CXA1198AP BLOCK DIAGRAM



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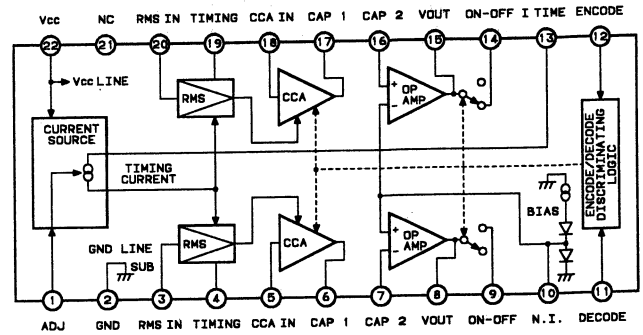

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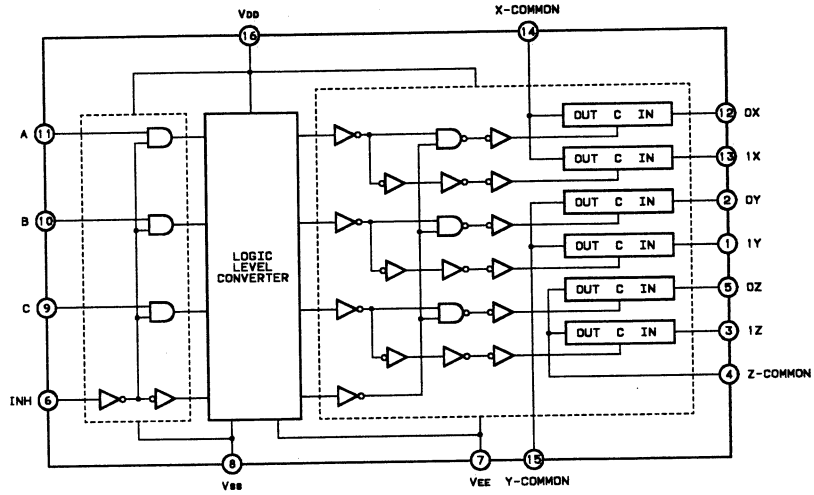
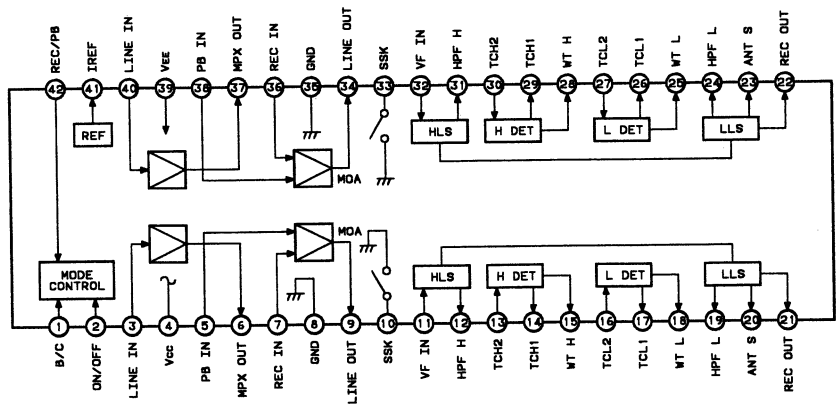
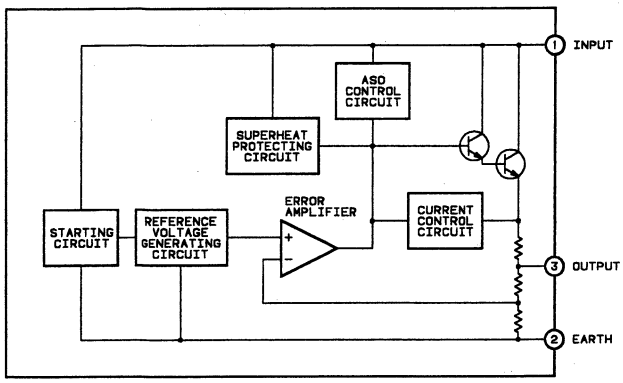


CX20187 BLOCK DIAGRAM



IC BLOCK DIAGRAM (Continued)

M5F78M05L BLOCK DIAGRAM
M5F78M08L BLOCK DIAGRAM
M5F78M12L BLOCK DIAGRAM



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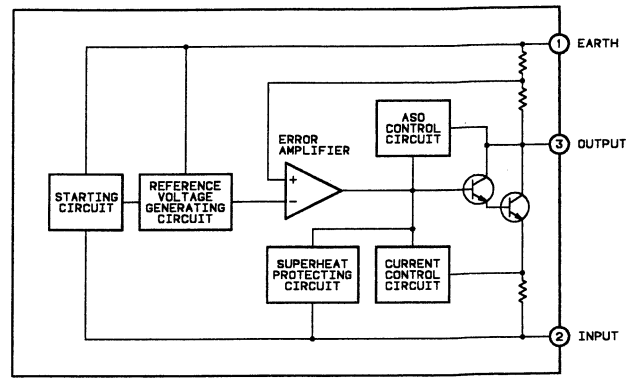
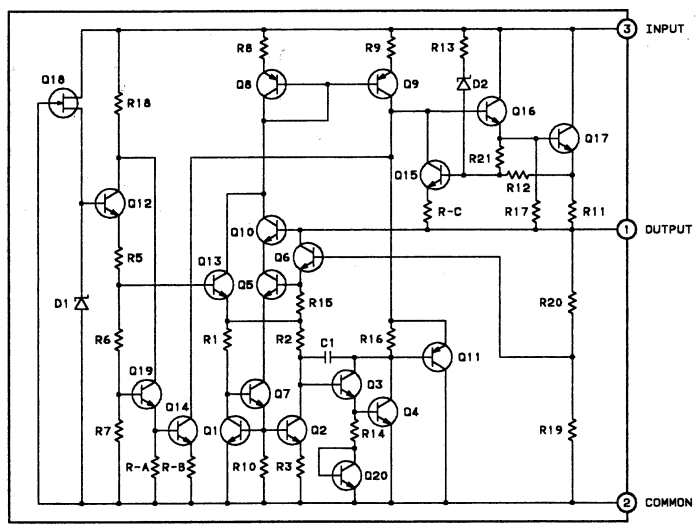


UPC78M05HF BLOCK DIAGRAM
UPC7812HF BLOCK DIAGRAM



September/'89/1,200/K **Printed in Japan**

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8000 München 82 Tlx: 524033